



The Elasticity of Demand for Microcredit: a Case Study in the Dominican Republic

by Gabriela Luisa Salazar

This thesis/dissertation document has been electronically approved by the following individuals:

Turvey, Calum G. (Chairperson)

Bogan, Vicki L. (Minor Member)

THE ELASTICITY OF DEMAND FOR MICROCREDIT
A CASE STUDY IN THE DOMINICAN REPUBLIC

A Thesis

Presented to the Faculty of the Graduate School
of Cornell University

In Partial Fulfillment of the Requirements for the Degree of
Master of Science

by

Gabriela Luisa Salazar

August 2010

© 2010 Gabriela Luisa Salazar

ABSTRACT

The price elasticity of demand for microcredit serves as an essential tool in defining demand for microcredit and subsequently in designing relevant policy and industry products. With the aim of describing consumer preferences for microcredit, this thesis carries two objectives. These are to extract the loan demand schedules and elasticities of borrowers of Esperanza International, a microfinance institution operating in the Dominican Republic, and to then examine the demographic characteristics and borrowing behavior that are correlated with differences in these measures.

Using client reactions to changes in monthly interest rates by intervals of one percent per month between zero percent and eight percent, this study finds that demand is heterogeneous but largely linear and downward sloping. We draw a best-fit elasticity measure, and find that borrower demand approaches unit-elasticity at 4 percent monthly interest. These findings contrast with more inelastic estimates of elasticity of demand among the poor and extreme poor in the literature, and furthermore suggest that Esperanza is operating at profit maximizing levels.

To examine variation among clients, this thesis models demand elasticity as a function of demographic characteristics, business profile, personal financial behavior, and borrowing history as recorded by Esperanza. Ordinary least squares and tobit regression results indicate that clients who were more comfortable taking risks in order to increase profits and who have acquired vocational training exhibit more elastic demand. In contrast, clients who derive the majority of their income from wage labor, those who are at the onset of developing their business, those who consider themselves credit rationed, and those who were able to recall the interest

rate on their loan emerge with significantly more inelastic demand. These findings suggest that entrepreneurial drive or skill level, financial literacy, and cultural dissimilarities are correlated with the price elasticity of demand for microcredit and call for further study

BIOGRAPHICAL SKETCH

A native of Washington D.C., Gabriela Luisa Salazar graduated in 2008 from Cornell University with a Bachelor's of Science in International Agriculture and Rural Development and with minors in Nutrition and Latin American Studies. Family ties to the Caribbean have inspired an interest in and deep appreciation for the region. Gabriela's collaboration with Esperanza extended from a teaching experience in the country in 2005 and an internship at Esperanza Hato Mayor branch in the summer of 2007. This Master's Thesis is intended to complement these previous efforts.

To Eleanor and Andres Salazar, and to Gabriela and Nicolas Arroyo

ACKNOWLEDGMENTS

My sincerest gratitude to my committee members, Calum Turvey and Vicki Bogan, for the invaluable guidance they have offered me both as an undergraduate and graduate student at Cornell. Calum's steadfast encouragement drew me into research and into this Master's program, and his honest ingenuity drove this thesis project forward. I am additionally indebted to Vicki for her conscientious advice and support, without which many key details would have been vastly overlooked both while preparing to administer the survey in Santo Domingo and while finalizing the analysis.

I would like to also sincerely thank Director Carlos Pimental Sanchez, Research Coordinator Dra. Lourdes Cubero, Technology Manager Andres Barretto, all interviewers who offered their time and input, and all the remaining staff and clients of Esperanza International that contributed to the development and realization of this project. Esperanza is truly an exceptional institution.

Finally, I am completely indebted to my parents, sisters, brother, great aunt, other family, and close friends for their untiring support.

TABLE OF CONTENTS

Biographical Sketch.....	iii
Dedication.....	iv
Acknowledgements.....	v
List of Figures.....	viii
List of Tables.....	ix
List of Abbreviations.....	x
Chapter 1.....	1
1.1 Interest Rates in Microfinance.....	1
1.2 Elasticity of Demand for Microcredit.....	2
1.3 Research Objectives.....	3
Chapter 2.....	5
2.1 Microfinance in Latin America.....	5
2.2 Economy of the Dominican Republic.....	7
2.3 Financial Sector Development in the Dominican Republic.....	12
2.4 Microfinance in the Dominican Republic.....	13
2.5 Partner Organization: Esperanza International.....	15
Chapter 3.....	18
3.1 Survey and Demand Supplement.....	18
Chapter 4.....	23
4.1 Demand and Elasticity Data.....	23
4.2 Best-fit Elasticity Measure.....	26
Chapter 5.....	31
5.1 Econometric Analysis.....	31
5.2 Ordinary Least Squares and Tobit Regressions.....	31
5.3 Robustness Check.....	35
5.4 Discussion of Regression Models.....	35
Chapter 6.....	39
6.1 Further Considerations.....	39
6.2 Policy Responses.....	39
6.3 Conclusions.....	40
APPENDIX A.....	42
A.1: Client Descriptive Statistics (Percent).....	42
A.2: Client Descriptive Statistics, Survey Controls (Percent).....	43
A.3: Elasticity of Demand for Credit, OLS and Tobit Estimates, Full Models.....	44
A.4: Robustness Check: Elasticity of Demand for Credit, OLS and Tobit Estimates.....	47

A.5: Variable Key	51
APPENDIX B	54
B.1: Cornell Survey Instrument, English (Questions in bold have been incorporated into the analysis. Questions followed by an * were marked by interviewers as problematic.)	54
B.2: Demand Supplement, English Version with Loan Template	70
B.3: Cornell Survey Instrument and Demand Supplement, Spanish Version	71
APPENDIX C	97
STATA Code	97
References	102

LIST OF FIGURES

Figure 1. The Dominican Republic with Participating Esperanza Branches.....	7
Figure 2. Gross National Product Per Capita USD, 1991-2009	8
Figure 3. Gross National Product by Sector, Dominican Republic	8
Figure 4. Real Interest Rates in the Dominican Republic by Financial Entity	9
Figure 5. Bank Holdings in the Dominican Republic by Surveyed Province	10
Figure 6. Unemployment Rate by Gender in the Dominican Republic.....	11
Figure 7. Mean Income per Hour by Education in the Dominican Republic	12
Figure 8. Demand Supplement, English Translation of a Sample Question	21
Figure 9. Demand For Microcredit – Subsample	23
Figure 10. Aggregate Demand for Microcredit – Subsample.....	24
Figure 11. Selected Demand Curves – Subsample	24
Figure 12. Raw Elasticities of Demand for Credit – Subsample	25
Figure 13. Linear, Best-Fit and Constant Elasticity Measures – Subsample	27

LIST OF TABLES

Table 1. Characteristics of Esperanza Loans.....	16
Table 2. Client Descriptive Statistics.....	19
Table 3. Mean of Raw Elasticity Measures.....	24
Table 4. Best-fit, Linear, and Constant Elasticity Measures.....	27
Table 5. Raw Elasticity Measures by Branch.....	27
Table 6. Change in Interest Revenue According to Loan Selections.....	29
Table 7. Ordinary Least Squares and Tobit Regressions, Key Variables.....	31

LIST OF ABBREVIATIONS

ADEMI	Association for the Development of Microenterprises
ADOPEM	Dominican Association for the Women's Development
CBDR	Central Bank of the Dominican Republic
CGAP	Consultative Group to Assist the Poor
DR	Dominican Republic
EIU	Economist Intelligence Unit
FDD	The Dominican Development Foundation
FONDESA	The Fund for Development
IDB	Inter-American Development Bank
MIX Market	Microfinance Information Exchange
MFI	Microfinance Institution
OLS	Ordinary Least Squares

INTRODUCTION

1.1 Interest Rates in Microfinance

Microfinance institutions (MFI) respond to a demand for formal credit and savings services among the poor and extreme poor. Whether prioritizing poverty alleviation or commercial growth, MFI success necessarily depends upon accurate market profiling and product development. There is however, a shortage of literature modeling optimal MFI interest rates.

The global nature of MFI and the varying circumstances in which institutions are founded and managed have contributed considerable confusion and controversy to the question of allegedly prohibitive interest rates in the industry (Collins et. al, 2009). As it stands, MFI annual interest rates may exceed 85 to 100 percent, a clear contrast to the market rates offered in more developed economies (Rosenberg, 2007; Rosenberg, Gonzalez & Narain, 2009). Higher MFI interest rates are often accounted for by the higher operating costs of managing micro-loans, a cost which in part includes a variation in service delivery expenses (MIX Market, 2009). The poor are sensitive to price, write Collins et. al. (2009), but just as all consumers, they are willing to pay for convenience and flexibility. The degree to which these interest rates may exclude borrowers from the market, however, is critical in understanding industry impact and potential for growth (Banerjee & Duflo, 2010).

Muhammed Yunus, the economist credited with popularizing microfinance in the 1970's with the Grameen Bank of Bangladesh, vocally opposes what he defines as profit-maximizing microcredit programs (2007). Yunus has been outraged by annual interest rates that exceed 100 percent, as in the case of Compartamos in

Mexico (Collins et. al, 2009; Yunus, 2007). He describes the proliferation of such MFI as the “return of the moneylender,” and promotes instead the development of what he considers to be poverty-focused microcredit programs (2007). To qualify as such, MFI must charge interest rates that equal the cost of funds plus 10 to 15 percent annually (Yunus, 2007).

In a review of the classification scheme, Gonzalez (2010) finds that 75% of 1,002 MFI reporting to MIX Market in 2008 would qualify as profit-maximizing microcredit programs. Of these, Gonzalez finds that an estimated 95% of MFI in Latin America would classify as such. However, the report finds that Yunus’ methodology does not account for the inherent global variation in the real costs of microlending. The results confirm the heterogeneity of the demand for microcredit and in MFI operations generally. The question of prohibitively high interest rates remains unsettled and reflects a fundamental misunderstanding of the demand for microcredit.

1.2 Elasticity of Demand for Microcredit

The elasticity of demand was first described as an elasticity of “wants” by the English economist Alfred Marshall in 1890 (Marshall, 1922). With this unit-free measure, Marshall sought to define and compare consumer responsiveness to the supply and price changes of charcoal, salt, and “wall-fruit” among other goods. Marshall posits,

The elasticity (or responsiveness) of demand in a market is great or small according as the amount demanded increases much or little for a given fall in price, and diminishes much or little for a given rise in price.¹

¹ Marshall, p. 102

In the century following this introduction to the concept, elasticity has been widely investigated and utilized. As is the case with elasticity measures for other consumer goods, the price elasticity of demand for microcredit is a valuable tool in examining the demand for microcredit.

Studies have traditionally placed price elasticity estimates among microentrepreneurs as inelastic (Kochar, 1997; Bell et al, 1997; Karlan & Zinman, 2008) or in other words have suggested that the poor and extreme poor are relatively irresponsive to interest rate changes. Where credit is more difficult to acquire, it is reasoned, it will rise in value. Other and more recent analyses have estimated relatively more elastic demand (Dehija et al, 2007) or have indicated an increase in elasticity with the length of the loan term (Karlan & Zinman, 2008).

These studies, however, have all derived estimates from loan contract data, and as a result cannot fully account for borrowers' true preferences. It is reasonable to assume that these measures may therefore generate estimates that are biased towards inelasticity.

1.3 Research Objectives

Despite the significance of microcredit in developing entrepreneurship and improved livelihoods amongst the resource poor, very little is known of the underlying economic relationship between the borrower and lender. This relationship is described in its entirety under the classical Marshallian economic model with a demand curve and corresponding demand elasticity. However significant this relationship may be, we are unaware of any study that has investigated these demand schedules and elasticities at the individual level. The purpose of this study is to explicitly measure the demand for microcredit on such an individual level and derive corresponding elasticities.

To achieve this purpose, the study defines two key objectives. The first of these is to evaluate microcredit demand among entrepreneurs borrowing from an MFI in the Dominican Republic. The second objective is to determine the endogenous factors that are correlated with credit demand generally and with credit demand elasticities more particularly.

In accomplishing the first of these objectives, this study derives price elasticity of demand estimates from individual loan demand information collected by the author and a team of interviewers in the Dominican Republic. To achieve the second of these objectives, this study regresses elasticity estimates against demographic characteristics as well as borrowing and investment behavior. If elasticity can be correlated with client or loan characteristics, it would contribute to the development of more efficient policy and microcredit products.

Chapter 2

REGION, COUNTRY AND MFI CONTEXT

2.1 Microfinance in Latin America

According to recent measurements by the Financial Access Initiative (2009), 135 million adults in Latin America, or 35 percent of the adult population, remain outside the formal financial sphere. Though demand for microcredit among these individuals has not been specified, the estimate suggests considerable potential for industry growth. Furthermore, an index compiled by the Economist Intelligence Unit (EIU, 2009) ranks Latin America as having the most attractive business environment for microfinance globally.² Following the economic downturn of 2008, Latin American MFI growth rates indeed remained positive (CGAP, 2008).

Within Latin America, the term “microcredit” first emerged in describing a United Nations project of the 1970’s in Recife, Brazil (Palmer, 2009). By 1978, the prominent Inter-American Development Bank (IDB) began financing MFI projects in the region and as of 2003, has provided US\$120 million to fund 212 microfinance projects (Palmer, 2009). The Dominican Republic, along with Colombia, is considered one of the first Latin American countries to have more consistently developed and experimented with microfinance models (Berger, Goldmark, & Miller Sanabria, 2006).

² This index integrates measures of the investment climate, regulatory framework, and institutional development. The regulatory framework index is derived from measures of the regulation of microfinance institutions, the formation and regulation of regulated/supervised specialized MFI, as well as regulatory and examination capacity. The investment climate index is derived from measures of political stability, capital market development, judicial system development, accounting standard development, governance standard development, and MFI transparency. The institutional development index is derived from three measures: the range of MFI services, the presence of credit bureaus, and the level of competition.

When considered in a global context, larger Latin American MFI tend to be more commercially oriented with respect to operations, financial performance, financing, and ownership (Berger, Goldmark, & Miller Sanabria, 2006). In 2007 for example, Latin America hosted the first initial public offering (IPO) of an MFI with Compartamos in Mexico (Rosenberg, Gonzalez & Narain, 2009). MFI in the region have also distinguished themselves as relatively more adaptable and responsive to consumer demand, as having greater urban concentrations of clients, and as having a more diverse client base (Berger, Goldmark, & Miller Sanabria, 2006).

Information regarding MFI interest rates is not readily available for Latin America or the Dominican Republic, but a proxy has been derived using data from the Microfinance Information Exchange (MIX Market). This proxy, known as a microfinance ratio, calculates nominal financial revenue as a share of average loan portfolio. According to the measure, interest rates among MFI in Latin America likely declined between 2007 and 2008 with a weighted average of 29.5% annual by 2008 (EIU, 2009). In the Dominican Republic, the average microfinance ratio among the four MFI that provided financial information to MIX Market stood slightly higher at 33.6% annual (EIU, 2009).

In 2008, the average borrower in Latin America and the Caribbean held larger loans than borrowers in other regions of the world. According to an industry survey Latin American microfinance loans averaged at US\$780, more than twice the size of the average loans offered by African, Middle Eastern, North African, and Asian MFI (MIX Market, 2009).³ MFI in Latin America or the Caribbean also report relatively higher costs per loan at US\$167. This is higher than that of African, Middle Eastern, North African and Asian MFI (MIX Market, 2009).⁴ When considering the

³ US\$308 among MFI in Africa, US\$166 among Asian MFI, and US\$317 among MFI in the Middle East and North Africa (MIX Market, 2009)

⁴ US\$132 among African MFI, US\$71 among MFI in the Middle East and North Africa and US\$71 among Asian MFI (MIX Market, 2009)

percentage of portfolio at risk, MFI in Latin America and the Caribbean rank second among the same regions of the world with 4.2% of their assets at risk (MIX Market, 2009).

2.2 Economy of the Dominican Republic

The Dominican Republic occupies the eastern portion of the island of Hispaniola in the Caribbean (Figure 1). As of 2007, the Dominican Republic's Gross Domestic Product (GDP) growth rate ranked as fifth highest among Latin American countries with a GDP per capita of US\$4,816 in 2009 (Figure 2) (ECLAC, 2007; CBDR 2010).



Figure 1. The Dominican Republic with Participating Esperanza Branches Outlined ⁵

⁵ Los Alcarrizos and Los Guaricanos offices are included within the vicinity of Santo Domingo;
Image Source: http://www.getawaybahamas.com/dominican_republic.htm

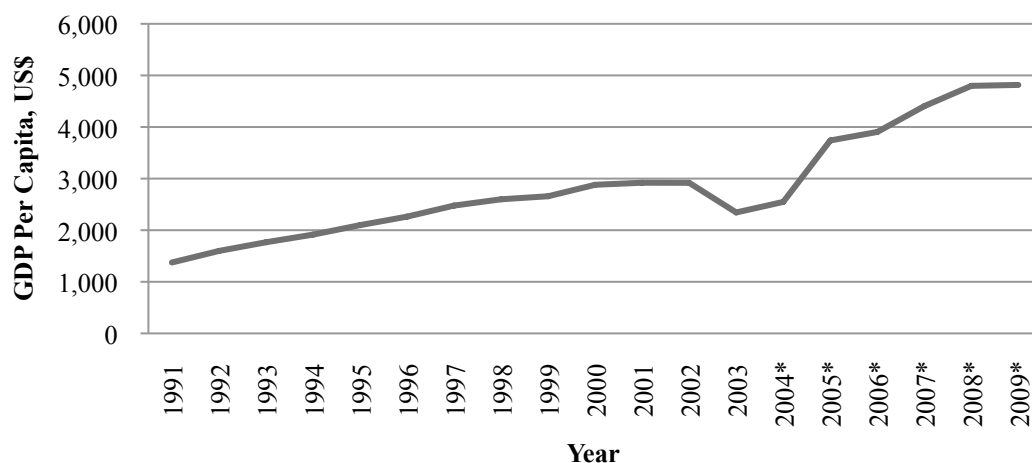


Figure 2. Gross National Product Per Capita USD, 1991-2009

Though the country's economy was traditionally based on agriculture, sugar being the primary agricultural export, emphasis has since shifted to telecommunications, manufacturing, tourism, and other services (Figure 3) (Alonso, 2001; CBDR 2010). These shifts have been driven significantly by the inflow of foreign direct investment, especially from the United States (Palmer, 2009).

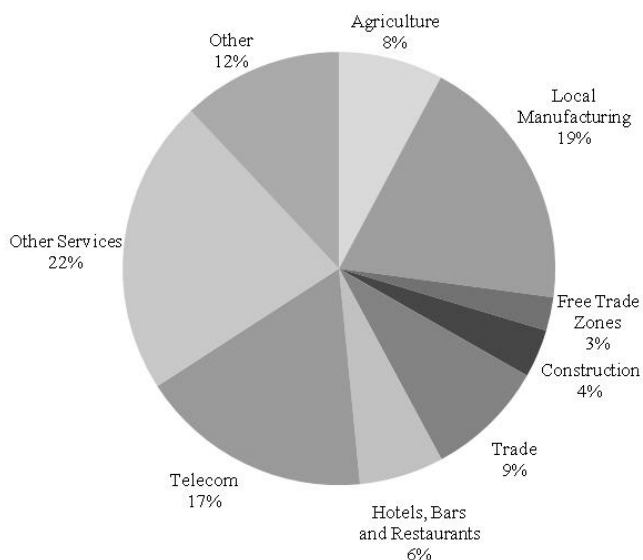


Figure 3. Gross National Product by Sector, Dominican Republic ⁶

⁶ Data collected January-September 2009, CBDR

In the past decade, the interest rates offered by formal financial institutions have varied considerably in the DR (Figure 4). The country experienced an economic crisis in the early 2000's during which interest rates dropped into the negative. Since 2005 however, they have largely stabilized with a mean annual interest rate of 19.52 percent (Figure 4).

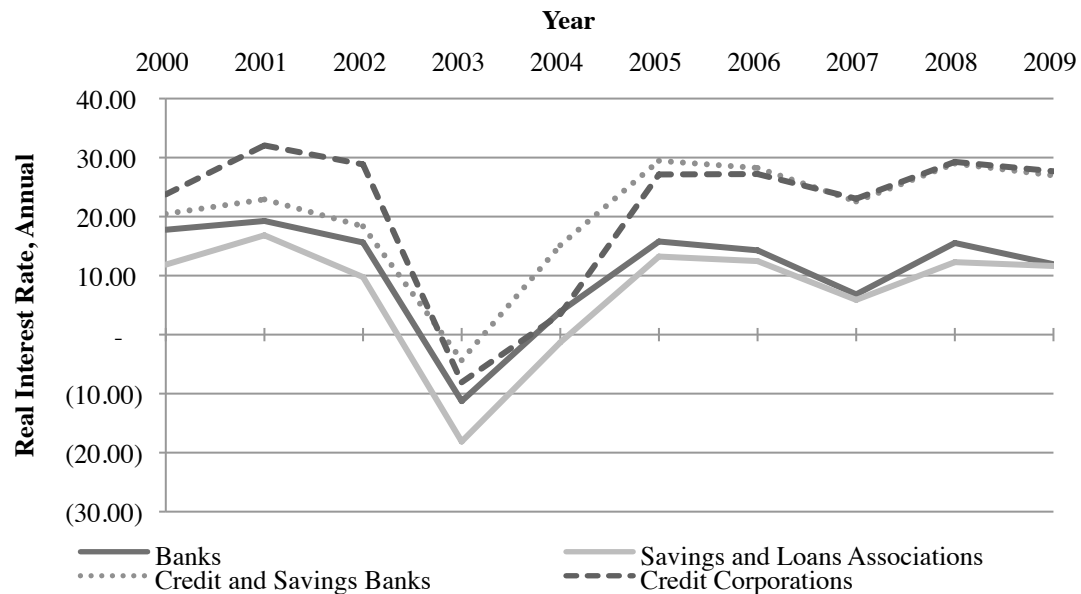


Figure 4. Real Interest Rates in the Dominican Republic by Financial Entity, 2000-2009 ⁷

As of March 2010, the total loan portfolio in the DR was growing at an annual rate of 18.7% (CBDR, 2010). Among Dominican provinces represented in the study sample, Santo Domingo, San Pedro de Macoris and Puerto Plata reported the largest amount of bank holdings (Figure 5). The provinces of Hato Mayor and el Seybo⁸ reported significantly fewer bank holdings (Figure 5).

⁷ CBDR

⁸ El Seybo is also known under the alternate spelling of El Seibo

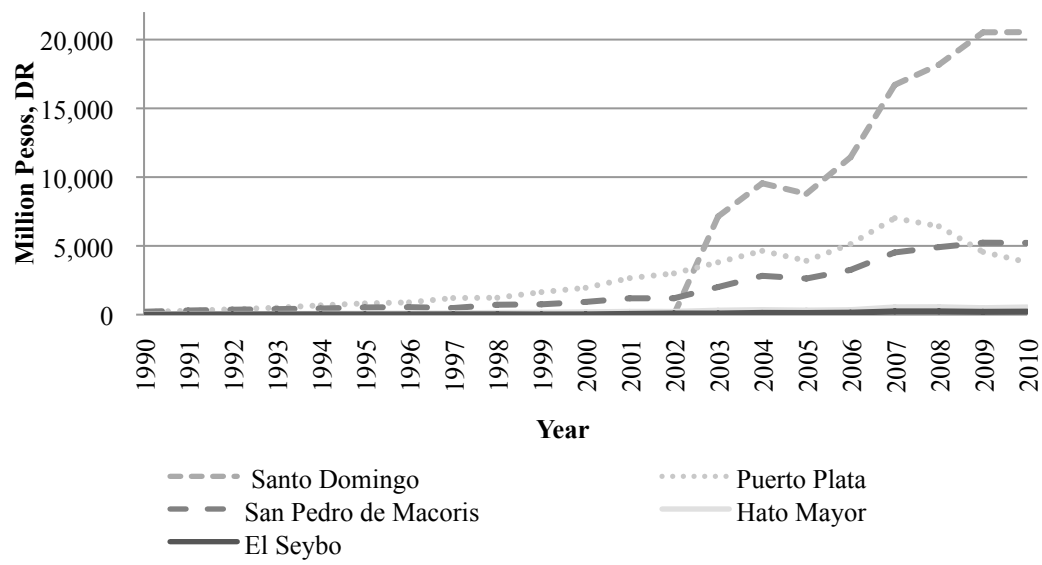


Figure 5. Bank Holdings in the Dominican Republic by Surveyed Province, 1990-2010⁹

In the past decade, unemployment rates have remained relatively stable and have been decreasing (Figure 6). As of 2009, they stood at roughly 10 and 24 percent for men and women respectively (Figure 6). Within this measure, the unemployment rate includes individuals who are actively seeking work or who are willing to work even if not actively seeking work (CBDR, 2010). The disparity between men and women is representative of culturally assumed gender roles, where men will more often work for wage labor while women manage households (Rodriguez, 2010). Paternalistic assumptions and beliefs are pervasive in the Dominican Republic (Rodriguez, 2010).

⁹ Estimates run through March 2010, CBDR

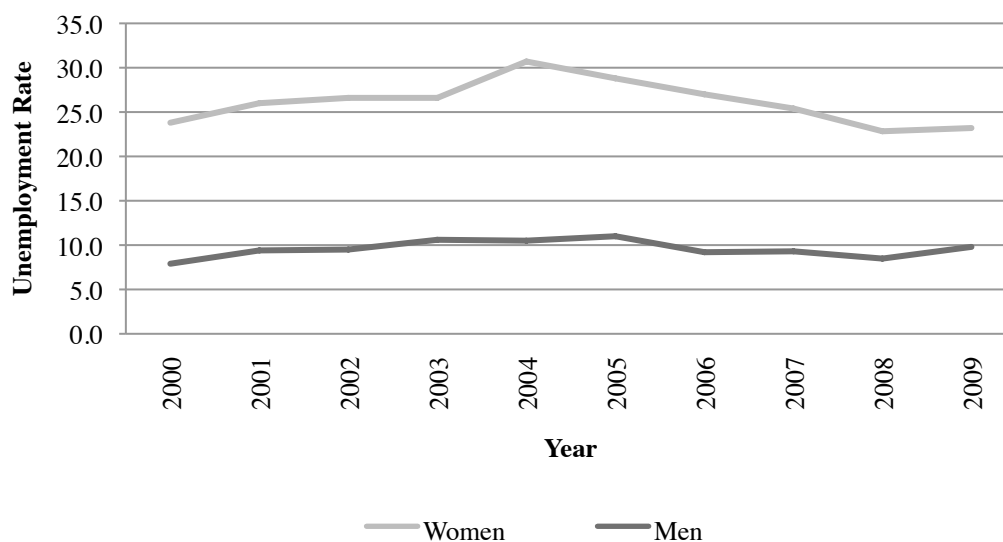


Figure 6. Unemployment Rate by Gender in the Dominican Republic, 2000-2009 ¹⁰

The most recent national census revealed an overall literacy rate of 78% in the DR (ONE, 2002). On a national scale, data collected in 2009 indicated that the average college educated individual in that year earned roughly US\$3.37 per hour as compared to the average uneducated individual who earned US\$1.09 per hour (Figure 7).¹¹

¹⁰ CBDR

¹¹ Estimates are based on an average exchange rate of 35.886 Pesos DR per USD in 2009, CBDR

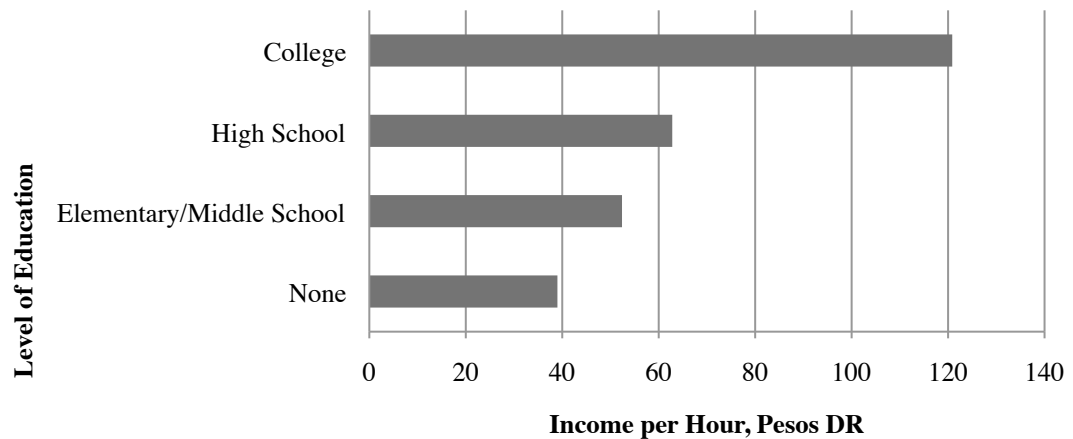


Figure 7. Mean Income per Hour by Level of Education in the Dominican Republic, 2009 ¹²

2.3 Financial Sector Development in the Dominican Republic

The Dominican Republic established the Central Bank and the Banking Superintendency in 1947 and subsequently established the Insurance Superintendency and the National Housing Bank. Together, these four institutions regulate the Dominican financial sector (McDonald & Ledgerwood, 1999).

However, far before this in 1919, a ceiling of 12% annual interest was set on all lending rates offered in the formal banking sphere. With inflation rates ranging between 11 and 15 percent in 1970s and 1980s, credit was often offered at close to zero percent interest (Vargas-Lundius, 1991). Though policy intended to redistribute income to poorer households, the relatively inexpensive credit tended to benefit wealthier borrowers while excluding microentrepreneurs and small and medium-sized entrepreneurs (Ortiz, 1999; Vargas-Lundius, 1991). Distortions in the land market have contributed to this disequilibrium, leading to the persistence of extreme poverty in rural and primarily agricultural areas (Vargas-Lundius, 1991). For these and financial sustainability concerns, subsidized credit schemes largely failed in the Dominican Republic.

¹² CBDR

After a period of economic stagnation in the 1980's, several financial institutions collapsed. Eight of 23 commercial banks in the country, together accounting for roughly 20 percent of banking assets, filed for bankruptcy between 1988 and 1991. In 1989, over half of the country's population was estimated as living in poverty (Cela, 1997). By 1990 inflation rates soared to 79.9% and GDP growth fell by 5.5 percent (CBDR, 2010). In response, the government began implementing sweeping financial reform. These measures included the liberalization of interest rates in 1991 (Rosario, 1998), and the adoption of new regulations beginning in 1992 that improved regulatory supervision to meet international transparency standards (Anderson & Valdes, 2008; McDonald & Ledgerwood, 1999). Ortiz (1999) concludes that this financial reform largely benefited microentrepreneurs as well as small and medium-sized business owners by abolishing inefficient subsidies.

Individuals who are not currently incorporated into the formal financial sphere commonly depend upon moneylenders and rotating savings and credit associations (ROSCAs). Moneylenders have been generally documented as charging 12-40% interest per month, rates that are too costly for the majority of Esperanza's clients (Findley, 2005; Vargas-Lundius, 1991). The ROSCA system, referred to as a "san" or "san caliente" is common but extensive data on its workings is not readily available (Findley, 2005). In 1983, an estimated 30% of rural families participated in ROSCAs (Gielfus, 1994).

2.4 Microfinance in the Dominican Republic

In the Dominican Republic microfinance has offered an attractive alternative to borrowing informally and from traditional commercial banks among the extreme poor (Espinal & Grasmuck, 1997; McDonald & Ledgerwood, 1999). Commercial and development banks, other regulated financial institutions, cooperatives and

savings and credit associations, non-governmental organizations, and government programs presently offer microfinance services (Findley, 2005). Microfinance in the country is more heavily geared towards microenterprise development but products have also been designed for small-scale agricultural operations, home improvement and/or construction, and general consumption needs (Findley, 2005).

Within the Dominican Republic, Honohan (2008) finds that roughly 4.5 million adults, or 71 percent of the adult population in 2005, did not have access to credit (Chai et. al, 2009). With respect to entrepreneurial prospects, a 2008 World Bank Report found that 13.3% of Dominican adults and firms are listed in public credit registries and 35.4% in private registries. This compares with respective averages of 8.6% and 59.3% among members of the Organization for Economic Co-operation Development (OECD). The figures uphold the estimation that relatively fewer Dominican adults participate in the formal financial sphere. The Economist Intelligence Unit (2009) notes that the Dominican MFI market remains relatively less competitive than those of other Latin American countries. Taken together, these indicators suggest considerable prospects for the development of microfinance in the country.

In the 1980s, several key non-governmental microfinance institutions were founded. These included the Association for the Development of Microenterprises (ADEMI), the Dominican Association for the Women's Development (ADOPEM), the Fund for Development (FONDESA), the Program for the Assistance of Small Firms, The Women's Bank (Banco de la Mujer), and the Dominican Development Foundation (FDD). According to the Rating Fund (2008), a project pertaining to the Inter-American Development Bank (IDB) and the Consultative Group to Assist the Poorest (CGAP), the FDD, FONDESA, ADOPEM, and ADEMI have since become the largest and most sustainable in the country. These MFI were remained relatively resilient during the economic crisis of the late 1980's and early 1990's. Among them,

ADEMI notably thrived, removing subsidies in 1991 and eventually becoming a development bank. These MFI exhibited an initial bias towards men but towards the end of the 1980s, incorporated a balanced count of women (Grasmuck, 2000).

As of 2008, microfinance institutions in the Dominican Republic claimed a gross loan portfolio of roughly 1.9 million with 17,374 active borrowers and total assets of 2.6 million (MIX Market, 2008).

Of 55 countries included in an Economist Intelligence Unit 2009 Microfinance index, the Dominican Republic ranked 22nd in terms of its investment climate, regulatory framework and institutional development overall. A 2009 ranking of the best MFI in Latin America and the Caribbean scored the Dominican Republic's ADOPEM as 11th, and the country's ADEMI as 60th (IADB, MIX Market & MIF, 2010).¹³ The report also notes that ADOPEM grew in size from 2007 to rank as the 20th largest Latin American MFI in terms of loan portfolio. The ADOPEM bank ranked 9th in terms of market saturation (IADB, MIX Market & MIF, 2010).¹⁴

The measured interest rate proxy or microfinance ratio, suggests that interest rates among MFI in the Dominican Republic likely decreased between 2007 and 2008 (EIU, 2009). Because all other Dominican financial institutions experienced an increase in mean interest rates during the period (Figure 4), it is not clear as to why this was the case.

2.5 Partner Organization: Esperanza International

Esperanza International is a non-profit faith-based MFI targeting the extreme poor in rural, semi-rural, and semi-urban communities of the Dominican Republic. The organization addresses gender disparities within the country by targeting

¹³ 229 MFI are considered in the ranking, data is limited to those that are listed at <http://www.mixmarket.org>

¹⁴ IBID

women. Esperanza was founded in 1995 by David Valle, a professional American baseball player who had trained in the Dominican Republic. Esperanza is affiliated with or has received funding from Hope International, Microsoft, the Grameen Foundation, the Dominican Institute of Telecommunications (INDOTEL), and the Seattle Mariners (Esperanza, 2010).

As a Grameen Bank partner, Esperanza implements a derivative of the Grameen group solidarity-lending model. Group loans account for roughly 96 percent of borrowers and 85 percent of the total loan portfolio. Clients convene on a biweekly basis with group members and an average of 5-10 other groups to repay loans within or in close proximity to their community of residence. As a component of a typical loan package, clients are required to make a set savings deposit per quota, and are offered the option of depositing additional voluntary savings. Clients are also offered the option of loan insurance and life insurance. At no additional cost, borrowers are offered certain basic Esperanza health services for themselves and their family members. At an extra cost of roughly US\$1.50 per month, clients and their families can gain access to more specialized services in general medicine, rehabilitation, OBGYN, physical therapy, and HIV/AIDS testing & counseling (Esperanza, 2010).

With a staff that is primarily Christian Pentecostal, as well as prayer and bible readings incorporated regularly into employee and client relations, Esperanza reflects the growing influence of fundamentalist Christian movements in the distribution of development funds (Harper, Rao & Sahu, 2008). Importantly, Esperanza does not exclude clients on the basis of religion. Eligibility for an Esperanza loan is currently based upon an individual's source of income, income level, housing and living conditions, total assets, and socio-cultural development level. All potential associates must have some source of income, operate a microenterprise, or have evident

motivation to begin one. They must not, however, hold a fixed income higher than the national minimum salary for small businesses.

Table 1 – Characteristics of Esperanza Loans ¹⁵

Variable	Mean	Std. Dev.
Interest Rate, Annual	46.85	4.15
Effective Interest Rate, Annual	66.58	6.68
Installment, Days	185.63	107.84
Amount disbursed, Pesos DR	8,876.60	16,623.46

As of January 2010, Esperanza served 16,300 active clients with an average loan size of 8, 876 Pesos DR or roughly US\$246.47¹⁶ for an average of six-month loan periods (Table 1). Esperanza offers a mean annual interest rate of 47 percent and a mean annual effective interest rate of 67 percent (Table 1). Esperanza additionally reports repayment rates of between 95 and 98 percent annually (Esperanza, 2010).

¹⁵Represents 72,674 disbursed loans as of October, 2006

¹⁶ Estimates are based on an average exchange rate of 36.11 Pesos DR per USD in January 2009, CBDR

Chapter 3 EMPIRICAL STRATEGY

3.1 Survey and Demand Supplement

The survey was adapted from a survey developed by Cornell University and the Chinese Northwest Agriculture and Forestry University that assessed credit rationing issues as well as informal lending among friends and relatives among villagers in China (Appendix B). This survey or adaptations thereof have been administered in China and India between 2007 and 2009. The survey was adjusted to fit the participant-specific context in the Dominican Republic. It incorporated Esperanza employee input and also generally geared questions towards borrowers of a microfinance institution. An English version, Spanish translation, and back translation to English were all approved by the Cornell University Institutional Review Board for Human participants, and therefore abide by the university's ethical standards. Esperanza reviewers made final and subtle adjustments in Spanish terminology and grammar. These alterations adjusted standard and formal Spanish phrases to the Spanish more commonly used among Esperanza clients.

With a total of 14 interviewers, this study administered surveys to 431 women and men that held primarily Esperanza group loans in July-August, 2009.¹⁷ Of these, 257 provided complete survey data and 229 of these can be linked to loan and client data contained in Esperanza's database. The six Esperanza branches of Puerto Plata, Los Guaricanos, Los Alcarrizos, San Pedro de Macoris, Hato Mayor, and el Seybo were included in this analysis (Figure 1). Three Esperanza branches

¹⁷ Interviewers were asked to only in interview women with group loans. This however was misunderstood in some cases. As a result, there are a small number of men and participants with individual loans in the survey sample.

were excluded from the study.¹⁸ Interviewers were Esperanza volunteers or employees, and attended a training session before implementation as well as an organized post-survey discussion. Participants were asked for demographic, borrowing, lending, savings and investment information, and were also asked to respond to a series of eight demand questions (Figure 2).

In selecting participants, interviewers attended scheduled bank meetings or traveled to communities where clients were known to live. At scheduled bank meetings, interviewers administered surveys to clients that were willing to be interviewed. Interviewers determined which bank meetings to participate in according to scheduling restrictions. Some of the scheduled bank meetings took place at Esperanza's branch offices. If clients were interviewed outside of scheduled bank meetings, interviewers identified participant communities according to travel limitations and suggestions offered by loan officer.

Interviewers at the el Seybo and San Pedro de Macoris branches were given a goal of collecting 100 surveys per branch. The three interviewers operating out of the Santo Domingo offices were given the goal of collecting 50 surveys in total. The interviewer operating out of the Hato Mayor office was given a goal of collecting 50 interviews. These goals were determined according to interviewer time limitations. An additional five interviewers traveled between branches to support and monitor all surveying.

Selected descriptive statistics for the full sample of 257 and subsample of 229 are presented (Table 2; Appendices A.1 –A.2). We find that on average participants completed some or all of a high school education, have taken out an actual loan of

¹⁸ Interviews were not conducted in Samana as a result of internal managerial problems. Interviews were not conducted in Santiago as a result of its relatively new status, disproportionate representation of urban clients, and lack of available volunteers and employees to administer surveys.

11445.41 Pesos DR for 6.3 months, and have received 5.6 loans from any lender prior to the survey.

Table 2 – Client Descriptive Statistics, Key Variables

	Full Sample		Subsample	
	Mean	Std. Dev.	Mean	Std. Dev.
Education, 1(Illiterate)-7(Completed College)	3.19	1.44	3.20	1.43
Number of Dependents in Elementary School	1.53	1.43	1.52	1.46
Access to Water (3=always, 2=sometimes, 1=never)	2.17	0.89	2.17	0.90
Religious Rating, 1(Not Religious)-8(Very Religious)	5.72	2.27	5.71	2.23
Community Involvement, 1(Always)-4(Never)	2.09	1.09	2.10	1.10
Actual Loan, When Surveyed (Pesos DR)	11445.41	6681.53	11445.41	6681.53
Actual Loan Term, When Surveyed (Days)	189.55	62.17	189.55	62.17
Actual Voluntary Savings Total, When Surveyed (Pesos DR)	40.02	18.96	40.02	18.96
Num. Loans After Cornell Survey	0.80	0.57	0.83	0.57
Sum of Esperanza Loans Before Cornell Survey (Pesos DR)	27593.34	26271.76	29071.11	27062.52
Number of Loans Received, All Lenders	5.57	4.02	5.74	4.08
Debt Level, 1(Low)-3(High)	1.65	0.57	1.66	0.57
Credit Rationing Esperanza, 1(Strongly Disagree)-5(Strongly Agree)	2.01	1.59	1.99	1.59
Credit Rationing Consumption, 1(Disagree)-5(Strongly Agree)	1.80	1.35	1.79	1.35
Credit Rationing Business, 1(Disagree)-5(Strongly Agree)	4.17	1.42	4.15	1.46
Risk, 1(Risk Averse)-5(Risk Seeking)	3.96	1.65	3.89	1.70
Difference b/w Actual and Variant Loans (Pesos DR)	2672.55	5974.00	2896.93	6188.60
Time Between Esperanza and Cornell Surveys (Months)	1.04	5.97	0.16	4.22
Variant Loan Length (Months)	6.02	0.47	6.01	0.48

We presented the demand supplement 10 to 20 minutes into the survey to assure that clients were not excessively exhausted. In this supplement, two treatments put forward interest rates that increased or decreased sequentially by 1 percent per month from 0 to 8 percent and 8 to 0 percent respectively. In consideration of mean Esperanza loan characteristics (Table 1) a 4 percent monthly interest rate and six month term were chosen for the base loan rate and term in these eight demand questions.

No question was included for the base loan rate of 4%, as the acceptance of this loan was assumed. With each interest rate change, clients were then offered 10

to 15 loan options, all of which they were asked to acknowledge with Yes/No selections. These loan options correspond with elasticities of 0, -0.1, -0.2, -0.3, -0.4, -0.5, -0.6, -0.7, -0.8, -0.9, -1.0, -1.25, -1.5, -1.75, and -2.0 where applicable. As a result, loan sizes increase from the base loan amount as the interest rate decreases and decrease from the base loan amount as the interest rate increases.

Interviewer: All of the following questions ask the client to respond supposing that they have a loan of 6000 Pesos DR for 6 Months.

1) Suppose that you have received a loan of 6000 Pesos DR for 6 months. Now suppose that the interest rate increased from 4 percent to 8 percent per month, or 96 percent annual. This means that you would pay roughly 120 Pesos MORE per quota. With this interest rate, and using the money for exactly what you indicated earlier, which of the following loans would you want, if you could receive which ever you desired? Please respond YES or NO in each case A-J.

Each "New Loan" option is calculated according to elasticities of 0-(-2)	0	A	\$6,000	\$649	\$1848		
	-0.1	B	\$5,400	\$585	\$1661		
	-0.2	C	\$4,800	\$520	\$1477		
	-0.3	D	\$4,200	\$455	\$1292		
	-0.4	E	\$3,600	\$390	\$1108		
	-0.5	F	\$3,000	\$325	\$924		
	-0.6	G	\$2,400	\$260	\$737		
	-0.7	H	\$1,800	\$195	\$553		
	-0.8	I	\$1,200	\$130	\$368		
	-0.9	J	\$600	\$65	\$184		

Figure 8. Demand Supplement, English Translation of a Sample Question

Where a client has chosen a series of loans and makes only one switch from “yes” to “no,” we have used the average of the elasticities that correspond to the loan and next unselected loan to calculate a final loan size. In cases where clients have selected “yes” for all loans, the maximum loan amount has been included in the demand analysis. Where clients have selected multiple non-sequential loans, we have included only the loan where they have made their first switch. Where clients have

selected “no” for all loan options in a question, it has been assumed that they would borrow a loan size of zero.

To address anchoring concerns and capture a probable range of client loans, we administered five variants. These calculated interest rate changes according to base loan amounts of 3000, 6000, 9000, 12,000, or 15,000 Pesos DR, the equivalent of US\$84, US\$167, US\$251, US\$334, or US\$417 respectively.¹⁹ Interviewers carried multiple variants, and were asked to select the loan that best matched the clients’ actual loan. Clients were asked to envision using the hypothetical loans for the same purpose(s) that they used or were using their current Esperanza loan.

As compensation for their participation in the survey, clients were each offered a bundle valued at roughly US\$4.00 that included three to four school notebooks, one tube of toothpaste, one small bag of laundry detergent, and one bar of soap.

Before surveying began, 11 Interviewers participated in a full day training session. This session included a full group read-through of the survey where interviewers were encouraged to share their concerns. After surveying began 2 additional interviewers were incorporated into the team. So as to introduce these interviewers to the survey, they were asked to observe a survey session and discuss confusing points or to administer a survey while a trained interviewer observed and guided them through questions.

¹⁹ Estimates are based on an average exchange rate of 35.886 Pesos DR per USD in 2009, CBDR

Chapter 4 DEMAND & ELASTICITY MEASURES

4.1 Demand and Elasticity Data

Credit demand curves have been constructed for each client and as theory predicts, generally slope downwards (Figure 9; Figure 10). That is, demand for credit generally increases as the interest rates decreases towards zero. These findings corroborate those of Turvey (2010) among 897 small-scale farmers in China in 2009. Five selected demand curves highlight heterogeneity in participant preferences (Figure 11).

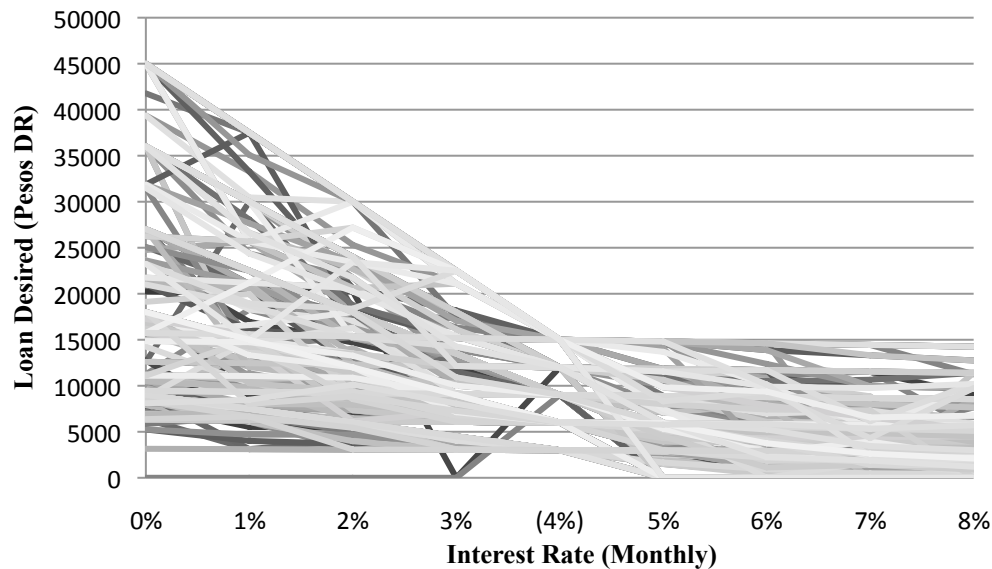


Figure 9. Demand For Microcredit – Subsample²⁰

²⁰ Desired loan with each interest rate change is displayed, N=229. Entries at the 4 % level are base loans of the variants (3,000; 6,000; 9,000; 12,000; 15,000 Pesos DR.

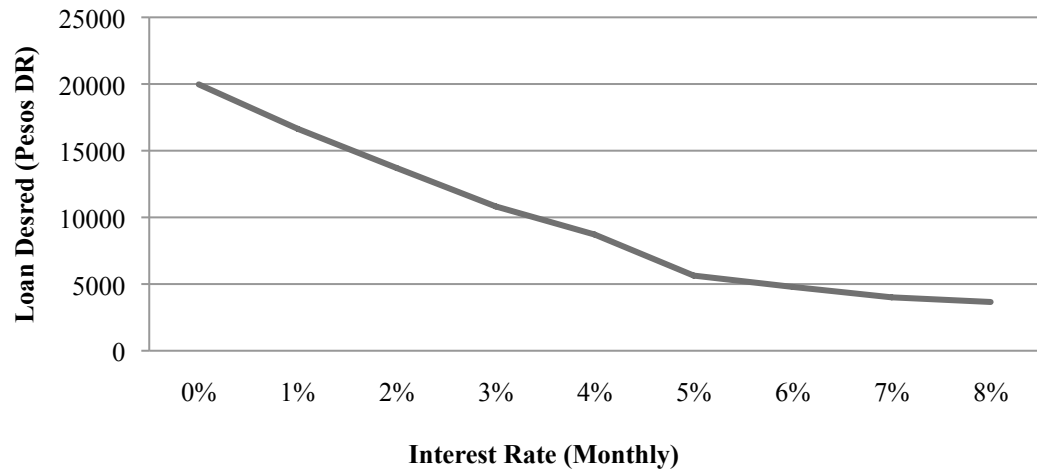


Figure 10. Aggregate Demand for Microcredit – Subsample

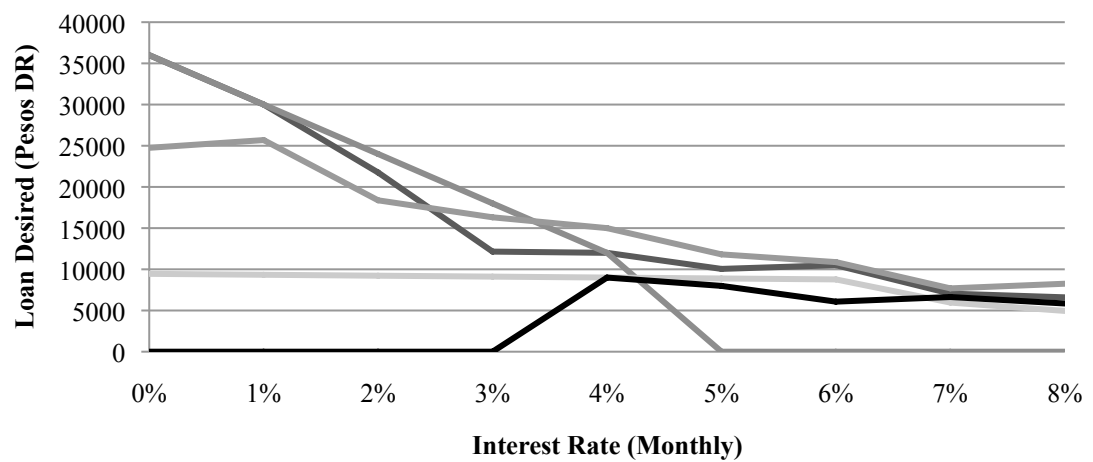


Figure 11. Selected Demand Curves – Subsample

Within the sample, demand for microcredit becomes more elastic as the interest rates fall and more inelastic as interest rates increase (Table 3). This is to say that clients are more responsive to a decrease in the interest rate than they are to a decrease in the interest rate. Table 3 also indicates that mean elasticity values are practically equivalent between the full sample (N=257) and the subsample (N=229).

In other words, the mean elasticities of the subsample seem to be representative of the larger sample.

Table 3 – Mean of Raw Elasticity Measures, Full Sample and Subsample

	Monthly Interest Rate								
	0%	1%	2%	3%	4%	5%	6%	7%	8%
<i>Full Sample</i>	-1.33	-1.24	-1.15	-0.94	(Base Loan)	-1.26	-0.81	-0.66	-0.55
<i>Subsample</i>	-1.33	-1.26	-1.17	-0.94	(Base Loan)	-1.26	-0.82	-0.67	-0.55

The range of raw elasticities is graphically displayed in Figure 12 for the subsample of 229 clients. Elasticity measures greater than zero or less than -2 are drawn from clients who have selected “No” for all loans in a given question. These elasticity calculations therefore correlate with loan sizes of zero, which lie outside the original loan size restrictions.

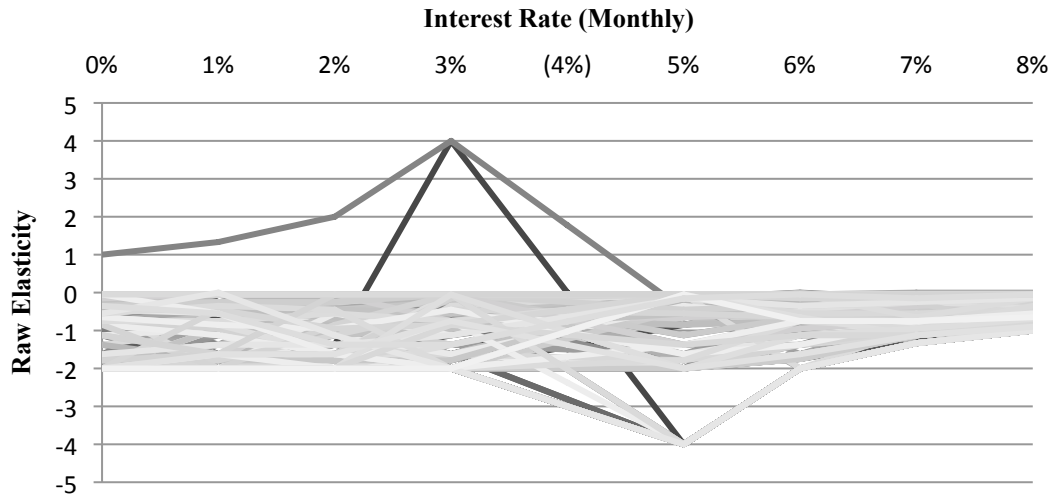


Figure 12. Raw Elasticities of Demand for Credit – Subsample ²¹

²¹ Selected elasticities correlate with loan selections made in the demand supplement N=229. Demand elasticities at the 4% base loan level represent the mean of the elasticities at the 3% and 5% levels. Outliers ($e > 0$ or $e < -2$) are cases where clients have selected "No" for all loan options and a loan demand of zero has been assumed.

4.2 Best-fit Elasticity Measure

A “best-fit” elasticity measure is derived from linear and constant elasticity of demand functions that have been fitted to the raw loan demand data. Elasticity is defined as,

$$\varepsilon = \frac{\% \Delta L}{\% \Delta i} = \frac{\partial L}{\partial i}$$

with L representing the quantity of loan demanded and i representing the interest rate.

The linear demand function is, $L = B - Ai$, where B is the intercept, A is the slope and i is the interest rate. The elasticity is derived at the base interest rate with,

$$\varepsilon_L = A \left(\frac{4\%}{L} \right)$$

The constant elasticity demand function is, $L = Bi^\varepsilon$ where L is the quantity of loan demanded, D is a positive constant, i is the interest rate, and ε_C is constant elasticity. With a logarithmic transformation of the selected loan amounts, we extract the slope, A , and calculate elasticity as, $\varepsilon_C = |A|$.²²

We evaluate R^2 values for each linear and constant-elasticity demand function and accordingly select a best-fit function for each client. The linear demand elasticity measures produced greater R^2 values than constant elasticity measures in 235, or 91.4 percent, of the cases considered (Figure 13).

²² Because constant elasticity demand functions approach zero at but do not intersect with the y-axis, loan entries of zero are substituted with values of 0.001.

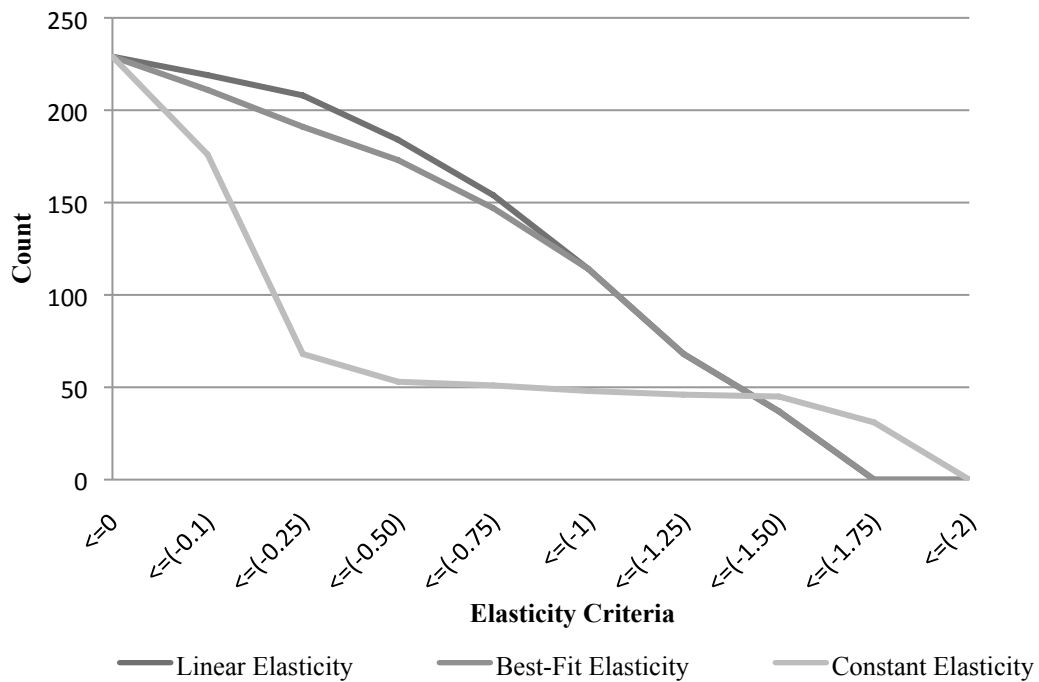


Figure 13. Linear, Best-Fit and Constant Elasticity Measures – Subsample ²³

Finally we estimate a mean best-fit elasticity of -0.91 (Table 4, Table 5). When measured by branch, mean best-fit elasticities vary considerably (Table 5). For example, a mean of -1.27 among 56 participants in Hato Mayor compares with a mean of -0.63 among 71 participants in San Pedro de Macoris. Further measurements confirm that the Hato Mayor ($p < 0.01$) and Seybo ($p < 0.01$) elasticity measures are skewed (Table 5). This abnormality may result from sampling error and requires further investigation.

²³ Notes: Cumulative counts of point elasticity estimates at base loan and interest rate of 4% monthly derived from linear function, constant elasticity power function, and a “best-fit” elasticity measure based on greatest R^2

Table 4 – Best-fit, Linear, and Constant Elasticity Measures

	Full Sample		Subsample	
	Mean	Std. Dev.	Mean	Std. Dev.
“Best-fit” Elasticity Measure	-0.91	0.51	-0.92	0.51
Linear Elasticity	-0.95	0.47	-0.96	0.48
Constant Elasticity	-0.49	0.66	-0.49	0.66

Table 5 – Mean of “Best-fit” Elasticity by Branch

Branch	Observations	Mean	Standard Deviation	Min.	Max.	Probability of Skewness
Hato Mayor	56	-1.27	0.54	-1.67	-0.05	0.00
San Pedro de Macoris	71	-0.63	0.42	-1.48	-0.04	0.44
Los Alcarrizos	13	-0.92	0.38	-1.65	-0.33	0.72
Los Guaricanos	9	-0.78	0.59	-1.67	-0.13	0.76
Puerto Plata	20	-0.39	0.36	-1.01	-0.03	0.25
El Seybo	88	-1.04	0.37	-1.58	-0.07	0.00
Total	257	-0.91	0.51	-1.67	-0.03	0.22

4.3 Discussion of Demand and Elasticity Findings

Survey complexity (Simon, 1955), framing (Slovic, 1969; Tversky & Kahneman, 1981), and ambivalence resulting from cognitive dissonance (Akerlof, 1982) may explain inconsistencies with neoclassical demand theory. However, the sample’s single upward sloping demand curve (Figure 11) may also be explained by the inherent limitations of the survey’s design.

The featured demand preferences belong to a client who held an actual Esperanza loan of 8,000 Pesos DR, but who was presented with a variant loan size of 10,000 Pesos DR in the Demand Supplement. The client’s actual loan and accrued interest totaled at 9516 Pesos DR. Because presented loan options were bound by elasticities of 0 to -2, the smallest loan offered as the interest rates decreased was a loan of 10,000 Pesos DR. Assuming that the client is not credit rationed, it is possible

that they would prefer a loan smaller than 10,000 Pesos DR but not equal to zero as was inferred by their response of “No” to all loan options. Indeed, the demand curve in this instance slopes downward after the client is provided with options that include 8000 Pesos DR.

Interestingly, raw mean elasticity jumps between 3 and 5 percent, disrupting continuity between zero and 8 percent (Table 3). This result is likely explained by complexity and framing issues (Slovic, 1969; Tversky & Kahneman, 1981). That is, clients may have had difficulty in framing the base loan and rate, and in responding consistently to increases and decreases surrounding that base rate.

Cases where the elasticity ranges into the positive (Figure 12) are also violations of neoclassical demand theory. These elasticities are consistent with the upward sloping nature of select portions of demand curves (Figure 9; Figure 11) and with the disruptions in continuity reflected by mean raw elasticity values (Table 3).

Our mean elasticity estimate falls within the range defined by Dehejia et al (2007) among MFI borrowers in Bangladesh of -0.73 to -1.04. However, the finding contrasts Bell et al.’s (1997) measure of -0.22 among small-scale farmers in Punjab, India. Our raw elasticity estimate of -0.55 at 8 percent interest per month (Table 3) contrasts Karlan et. al.’s (2008) more inelastic estimation of -0.32 at an interest rate of 7.8 percent annual among MFI borrowers in South Africa.

Table 6 – Change in Interest Rate Revenue According to Loan Selections, Full Sample ²⁴

	Interest Rate (Monthly)							
	0%	1%	2%	3%	5%	6%	7%	8%
Revenue (Pesos DR)								
<i>Monthly</i>								
Mean	-2336.87	-1310.50	-599.29	-219.90	-393.12	-298.71	-290.11	-139.29
Total	-535142.38	-300105.32	-137236.71	-50357.91	-90025.07	-68403.71	-66434.67	-31898.10
<i>Loan Term</i>								
Mean	-14070.39	-7903.03	-3623.07	-1332.55	-2434.82	-1867.09	-1827.67	-866.06
Total	-3222120.44	-1809793.28	-829683.18	-305153.42	-557572.84	-427563.92	-418536.79	-198327.34

A revenue analysis of the loan selections indicates that Esperanza would not gain interest revenue within the sample by changing interest rates (Table 6). In other words, Esperanza has modeled interest rates optimally. Reflecting upon the variation in mean raw elasticities (Table 3), Table 6 illustrates that Esperanza would lose more revenue within the sample by decreasing their interest rates than they would by increasing interest rates. However, this analysis has not considered changes in demand for microcredit among potential future clients. As a result, it is not clear how interest revenue would change if new rates were advertised to the public.

²⁴ Estimates compound interest on a biweekly basis and are measured according to interest rate revenue assumed for variant base loan.

ECONOMETRIC ANALYSIS AND RESULTS

5.1 Econometric Analysis

Ordinary Least Squares (OLS) and tobit models are considered in this analysis. The models regress best-fit elasticity measures against demographic, loan and business characteristics, borrowing behavior, savings, as well as controls for survey design and implementation. The OLS model is represented as,

$$\varepsilon_B = B_o + B_1x_1 + \dots + B_jx_j + e$$

Given that we have bound elasticity measures between 0 and -2, the data may be censored. When an OLS regression is used to estimate relationships with censored data, the estimator will emerge as inconsistent. The tobit model on the other hand produces a consistent estimator in these cases (Amemiya, 1973). For this reason, OLS results are compared with those of a tobit model.

Concerns surrounding interviewer consistency are addressed by removing interviewer dummy variables in both the OLS and tobit regressions.

5.2 Ordinary Least Squares and Tobit Regressions

Columns 1 and 3 present OLS and Tobit regressions that incorporate a complete set of independent variables. OLS and Tobit regressions that exclude interviewer dummy variables are presented in Columns 2 and 4 respectively. All written results consider the OLS regression presented in Column 1 of Table 7 unless otherwise indicated.

Table 7– Ordinary Least Squares and Tobit Regressions, Key Variables ²⁵

	OLS Regressions		Tobit Regressions	
	(1)	(2)	(3)	(4)
Vocational Training	0.189* (0.082)	0.198* (0.079)	0.189** (0.067)	0.198** (0.067)
Haitian Relatives	-0.141 (0.106)	-0.184 (0.099)	-0.141 (0.087)	-0.184* (0.085)
Primary Income, Wage Labor	-0.365* (0.146)	-0.344* (0.137)	-0.365** (0.119)	-0.344** (0.117)
Monthly Sales, 0-5000 Pesos DR	-0.332** (0.120)	-0.306* (0.119)	-0.332*** (0.098)	-0.306** (0.102)
Credit Rationing Consumption, 1(Disagree)-5(Strongly Agree)	-0.052* (0.025)	-0.054* (0.023)	-0.052* (0.020)	-0.054** (0.019)
Risk, 1(Risk Averse)-5(Risk Seeking)	0.035* (0.018)	0.040* (0.017)	0.035* (0.015)	0.040** (0.015)
Loan Purpose, Productive Inputs	0.17 (0.100)	0.177 (0.097)	0.170* (0.082)	0.177* (0.083)
Interest Rate Aware	-0.134 (0.078)	-0.137 (0.074)	-0.134* (0.064)	-0.137* (0.063)
If Rate Decreased, Borrow More	0.246** (0.081)	0.231** (0.079)	0.246*** (0.066)	0.231*** (0.067)
If Rate Decreased, Borrow Less	-0.354 (0.195)	-0.208 (0.183)	-0.354* (0.159)	-0.208 (0.156)
Difference b/w Actual and Variant Loans	0.000* (0.000)	0.000* (0.000)	0.000** (0.000)	0.000* (0.000)
Answered "No" to All Loan Options	0.629*** (0.108)	0.648*** (0.097)	0.629*** (0.088)	0.648*** (0.082)
Branch, Hato Mayor	-0.576 (0.296)	-0.208 (0.129)	-0.576* (0.242)	-0.208 (0.110)
Branch, Guaricanos	-0.295 (0.440)	-0.429 (0.239)	-0.295 (0.359)	-0.429* (0.204)
Branch, Puerto Plata	-0.4 (0.567)	-0.421** (0.158)	-0.4 (0.463)	-0.421** (0.135)
Constant	1.032 (1.471)	1.117 (1.348)	1.032 (1.201)	1.117 (1.149)
Sigma Constant			0.273*** (0.014)	0.291*** (0.015)
Observations	198	198	198	198

a. Demographic Characteristics

Among demographic variables, clients who held vocational training emerged with significantly more elastic demand than clients who did not ($p < 0.10$). The significance

²⁵ * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. Dependent variable is best-fit elasticity estimate. Full regression is presented in Appendix A.3 as well and variable descriptions in Appendix A.5

of this variable increased in the tobit models ($p < 0.05$). Clients who drew the majority of their income from wage labor show significantly more inelastic demand than clients who gathered the majority of their income from remittances or who did not have a regular income source ($p < 0.05$). When interviewers were removed and the tobit model was applied (Col. 4), clients who reported having Haitian relatives emerged with significantly more inelastic demand ($p < 0.05$). Neither religiosity nor perceived community involvement emerge as significant in this model.

b. Loan Characteristics

The clients' actual loan size, installment, effective interest rate and amount placed into a voluntary savings account during the course of the loan did not emerge as significant.

c. Business Characteristics

Clients who reported monthly sales of zero to 5000 Pesos DR emerged with significantly more inelastic demand than clients that were still in the midst of establishing their business and could not yet claim regular sales ($p < 0.05$). The variables emerged with higher levels of significance in the tobit models. Clients who invested any portion of their actual Esperanza loan in productive inputs emerged with more elastic demand ($p < 0.10$) in the tobit models.

d. Borrowing Behavior

Clients who reported that they were more likely to take risks in order to increase profits carried significantly more elastic demand ($p < 0.10$). Clients who considered themselves credit rationed with regards to consumption displayed more inelastic demand ($p < 0.1$) than those who did not. In both tobit models (Col. 3, Col. 4), clients that were familiar enough with the concept of an interest rate to give any response regarding the rate on their current loan emerged with significantly more inelastic demand ($p < 0.10$).

When asked how they would respond if the interest rate on their loan increased, clients who would take out a smaller loan emerged with less elastic demand than clients who would take out the same loan or who did not know ($p < 0.10$). Clients who would take out a larger loan if the rate increased emerged with significantly more elastic demand ($p < 0.05$). In the full tobit model (Col. 3) clients who would take out a smaller loan if the rate decreased emerged with significantly more inelastic demand ($p < 0.10$) than those who would take out the same loan or who did not know.

The sum of Esperanza loans disbursed prior to the survey emerged as significant variables. The number of loans that participants received from banks or NGO prior to the survey was also insignificant. Clients who reported that they had at least once been late to repay a loan to a family member, friend, moneylender or formal financial institution did not emerge as significantly different from zero in the models.

e. Savings

Savings variables did not emerge as significant in the model.

f. Survey Control Variables

The difference in size between the clients' actual loans and the variant loans emerged as significant ($p < 0.05$), but with a coefficient of 0.000. Clients who responded “No” to all loan options in any given question emerged with significantly more elastic demand ($p < 0.01$).

When interviewer dummies are removed, clients from the Puerto Plata branch carried significantly more inelastic demand than those from el Seybo ($p < 0.05$). In the full tobit model, borrowers from the Hato Mayor branch emerged with significantly more inelastic demand than those from el Seybo ($p < 0.10$). When interviewer dummies are removed (Col. 4), clients from Los Guaricanos ($p < 0.01$) and from

Puerto Plata ($p < 0.05$) emerged as significant. Variant size and the demand instrument control did not emerge as significant.

5.3 Robustness Check

Esperanza survey data was drawn from the Esperanza survey that had been administered closest to the Cornell survey date. This data includes the vocational training, estimated savings, and monthly business sale data. In some cases, this Esperanza survey data was collected after the Cornell survey date. In consideration of endogeneity concerns, these observations are dropped in a robustness check of the OLS and tobit models (Appendix A.4).

5.4 Discussion of Regression Models

Variables relating to entrepreneurial drive and skill-level emerge with a positive correlation to elasticity. These variables include vocational training and decreased risk aversion when increasing profits. Boucher and Carter (2001) describe a theoretical model that ties endowments with entrepreneurial success and posits that rationing perpetuates these inequalities. As this intuitive model suggests, further understanding of entrepreneurial drive as it relates to credit demand and endowment is warranted.

Though significance levels are not consistent, coefficient estimates also indicate that clients who source the majority of their income from wage labor display more inelastic demand than those who source the majority of their income from their own business. This would further link entrepreneurial drive to more elastic demand. The variable, however, also places borrowers who rely upon remittances or whose

income is not regular as most elastic. An interpretation of this full relationship requires further study.

Monthly business sales variables also provide partially confounding results. That is, individuals operating in the lowest sales bracket exhibit significantly more inelastic demand than individuals who have not yet established a business. Coefficients representing greater monthly sales brackets however, show that elasticity increases as sales increase. This may be reasonably linked to entrepreneurial drive and to the substitution of assets for credit. The robustness check (Appendix A.4) confirms that monthly business sales is significantly and negatively correlated with zero even when Esperanza survey data is restricted to those collected prior to the survey. Overall, the results call for more careful understanding of business development, the borrowing behavior of clients who have recently entered Esperanza, and business sales.

Though variables did not emerge as significant, the coefficient signs of the savings variables corroborate Dehejia et. al.'s (2007) elasticity estimations of -0.86 for a "low-saving" group and -0.26 for a "high-saving" group. However, Dehejia et al (2007) base their estimations on a measure of voluntary savings that the client set aside over the course of their loan in a monitored bank account. The same voluntary savings variable did not surface as statistically different from zero in the presented regressions (Table 7) and held a slightly negative coefficient in all four considered models.

Variables that would feasibly correlate with financial literacy and rationing emerge as inversely correlated with elasticity. These are an ability to name the interest rate on the client's Esperanza loan and the perceived degree of consumer credit rationing. The credit rationing results confirm the intuitive understanding that credit rationed individuals are less responsive to changes in interest rates. Nevertheless, it is not clear why other business-specific credit rationing questions did

not also emerge as significant in the model. The implications of these results are not fully clear, and require further analysis.

We find that Dominican-Haitians exhibit significantly more inelastic demand for credit in one of the incorporated models. This finding may correlate with degrees of credit rationing or levels of wealth. Dominican Haitians comprise what are relatively the most impoverished communities in the Dominican Republic, commonly living isolated in relic sugarcane producing communities. All surveyed clients were fluent in Spanish, but Haitian cultural ties may in some way limit investment or financial opportunities. There is also a deeply rooted aversion to Haitians and Dominicans of Haitian decent. This hostility finds its roots in the Haitian raids of the 19th century and continues to propagate with cultural and economic tension (Vargas-Lundius, 1991).

Though several studies have linked religious identity with economic indicators (Barro & McCleary, 2006; Guiso, Sapienza, and Zingales, 2003) , religious self-identification did not emerge as significantly different from zero in the models. This supports the findings of Benjamin et. al. (2010) in their study of 827 college students. In order to discern time preferences and the valuation of money, subjects were posed with payment scenarios,²⁶ with no significant differences emerging between Catholic, Protestant, and Jewish students (Benjamin et. al., 2010).

Questions meant to gauge basic responses to interest rate changes are significant and consistent with expectations. Clients who would borrow more if their rate decreased, show more elastic demand than those who would take out the same loan or did not know. When asked how they would respond if the interest rate on their loan increased, clients who would take out a smaller loan emerged with less

²⁶ The authors asked participants to make 12 choices of yes or no between receiving \$10 immediately and receiving some larger sum a week later. Participants were also asked to make another 12 choices between receiving \$10 one week later and receiving a larger sum roughly two weeks into the future. The larger sums ranged from \$10.10 to \$15.

elastic demand than clients who would take out the same loan or who did not know. These findings compliment the trend outlined in Table 3 with mean raw elasticity estimates. These show an increase in elasticity as interest rates decline and decrease in elasticity as interest rates increase.

Clients who would take out a smaller loan if the rate decreased display significantly more inelastic demand. This result violates demand theory and may find its explanation in problems of complexity (Simon, 1955) or framing (Slovic, 1969; Tversky & Kahneman, 1981).

Clients who selected “No” for all loan options in any one of the eight demand questions, are correlated with more elastic demand. Coding these responses with loan sizes of zero may excessively skew elasticity estimates, and consequently call for the calculation of appropriate non-zero loan sizes.

Chapter 6

CONCLUSIONS AND IMPLICATIONS

6.1 Further Considerations

Certain demand data were simplified for the purpose of this study. These include roughly 12 clients who made multiple switches from “yes” to “no” within any single loan question. These unique preferences warrant further investigation as a full explanation may expose survey design flaws or define unknown aspects of demand among clients.

Macroeconomic indicators such as inflation have been shown to influence investment behavior among microentrepreneurs in the Dominican Republic (Fischer, 2008). Such indicators alter the value of a loan and may link intricately with elasticity of demand measures. Future analysis may therefore benefit from careful consideration of such macroeconomic fluctuations.

Because study participants were clients who had already agreed to Esperanza’s loan terms, their preferences are not necessarily representative of the wider market for microcredit in the Dominican Republic. It is recommended that future analyses consider microcredit borrowers outside of Esperanza.

6.2 Policy Responses

Appropriate policy measures remain debatable regionally and worldwide. Of 136 surveyed countries globally, 39 have instated usury limits (CGAP, 2009). Interest rate ceilings have been considered a measure in consumer protection, but

evidence shows that they can also inhibit the growth of pro-poor MFI (MIX Market, 2009). An analysis of Mexican MFI by MIX Market (2009) finds that interest rate ceilings limit access to credit among the poor by marking smaller sized loans as uneconomical. Similar findings have been reported in relation to South Africa's blanket MFI price ceilings of the 1990's (Whitaker, 2008).

With short-term subsidies targeted at women borrowers for instance, some argue that MFI could lower their interest rates, increase their capital base, grow to a larger scale, and more sustainably serve a larger number of clients (Ortiz, 1999). However, credit subsidies in the Dominican Republic and other similar economies have not been historically successful (Adams & Von Pischke, 1992; Ortiz, 1999).

Reflecting upon the development of microfinance in the Dominican Republic between the 1980's and the late 1990's, Ortiz (1999) argues that in order to achieve greater impact and meet remaining demand in the Dominican Republic, MFI must work to attract more private sector capital. Ortiz (1999) notes that the creation of the country's Small Business Bank S.A. and the transformation of ADEMI into a Development Bank were the first significant strides made in this effort.

Appropriate measures will become more apparent as demand is more precisely defined. This will require further study of MFI borrowers as well as all individuals who currently borrow outside of the formal banking sphere.

6.3 Conclusions

Although MFI are growing at a considerable rate in developing economies, the demand for microcredit remains largely undefined within the relevant literature. This study contributes to the understanding of this demand and to the development of future analyses. To accomplish such, this thesis has defined two key objectives.

The first of these objectives has been to estimate microcredit demand and price elasticity of demand among a sample of MFI borrowers. The study has derived estimates from individual loan demand information collected by the author and a team of interviewers in the Dominican Republic. This study concludes that the sampled microentrepreneurs exhibit downward sloping and largely linear demand for microcredit. Moreover, we find that the sampled microentrepreneurs exhibit close to unit elastic demand for microcredit at the rate of 4 percent per month. More plainly, we find that from this base rate the percentage change in the interest rate is met by nearly the same percentage change in the loan size demanded. These findings suggest that interest rate changes would not generate additional revenue for Esperanza, and that the MFI has successfully modeled interest rates.

The second objective of this study has been to determine the endogenous factors that are correlated with this microcredit demand and with the corresponding price elasticity of demand. In achieving this, the study has employed OLS and tobit models to regress best-fit elasticity estimates against demographic characteristics as well as borrowing and investment behavior. The study finds that variables correlated with entrepreneurial drive and skill level are positively correlated with elasticity. Results also find that financial literacy and access is negatively correlated with elasticity.

The results of this unique study suggest that the demand for microcredit within the Dominican Republic is more elastic than has been estimated in other regions of the world. Further analysis of the borrower-lender relationship will be necessary in successfully designing efficient and appropriate financial products and public policy in the country.

APPENDIX A

Descriptive Statistics, Regression Analyses & Variable Key

A.1: Client Descriptive Statistics (Percent)

	Full Sample		Subsample	
	Mean	Std. Dev.	Mean	Std. Dev.
Vocational Training	0.68	0.47	0.70	0.46
Haitian Relatives	0.15	0.36	0.14	0.35
Primary Income, Own Business	0.80	0.40	0.79	0.40
Primary Income, Wage Labor	0.14	0.35	0.14	0.35
Primary Income Source, Not Regular	0.01	0.09	0.01	0.09
Primary Income Source, Remittances	0.05	0.22	0.05	0.22
Annual Savings, 0-5% of Income	0.51	0.50	0.50	0.50
Annual Savings, 5-10% of Income	0.67	0.95	0.70	0.96
Annual Savings, More than 10% of Income	0.14	0.35	0.14	0.35
Savings, 0-500 Pesos DR	0.29	0.46	0.27	0.45
Savings, 500-1000 Pesos DR	0.30	0.46	0.31	0.46
Actual Effective Annual Interest Rate, When Surveyed	65.38	7.72	65.38	7.72
Esperanza Health Services	0.80	0.40	0.80	0.40
Loan Purpose, Productive Inputs	0.10	0.30	0.10	0.30
Monthly Sales, Not Applicable	0.10	0.30	0.08	0.28
Monthly Sales, 0-5000 (Pesos DR)	0.22	0.41	0.22	0.42
Monthly Sales, 5000-10000 Pesos DR	0.25	0.43	0.26	0.44
Monthly Sales, 10000-15000 Pesos DR	0.24	0.43	0.24	0.43
Monthly Sales, 15000-20000 Pesos DR	0.16	0.36	0.16	0.36
Monthly Sales, 20000 or more Pesos DR	0.04	0.19	0.04	0.19
Debt Outside of Esperanza	0.34	0.47	0.34	0.48
Loan History, Late Repayment any Lender	0.22	0.42	0.22	0.42
Credit Necessary to Purchase Sufficient Food	0.35	0.48	0.34	0.47
Interest Rate Aware	0.39	0.49	0.37	0.48
If Rate Increased, Borrow More	0.10	0.30	0.09	0.29
If Rate Increased, Borrow Same	0.40	0.49	0.39	0.49
If Rate Increased, Borrow Less	0.42	0.49	0.44	0.50
If Rate Decreased, Borrow More	0.81	0.39	0.81	0.39
If Rate Decreased, Borrow Same	0.14	0.35	0.14	0.35
If Rate Decreased, Borrow Less	0.04	0.19	0.03	0.18

A.2: Client Descriptive Statistics, Survey Controls (Percent)

	Full Sample		Subsample	
	Mean	Std. Dev.	Mean	Std. Dev.
Survey Treatment A	0.60	0.49	0.61	0.49
Surveyed at Bank Meeting	0.12	0.32	0.11	0.32
Answered "No" to All Loan Options	0.24	0.43	0.24	0.43
Individual Loan	0.07	0.26	0.08	0.27
Man	0.02	0.12	0.01	0.09
Branch, Hato Mayor	0.22	0.41	0.22	0.41
Branch, San Pedro de Macoris	0.28	0.45	0.29	0.45
Branch, Alcarrizos	0.05	0.22	0.04	0.20
Branch, Guaricanos	0.04	0.18	0.03	0.16
Branch, Puerto Plata	0.08	0.27	0.07	0.25
Interviewer, Mirna	0.09	0.29	0.10	0.30
Interviewer, Astia	0.21	0.41	0.22	0.41
Interviewer, Lourdes	0.07	0.25	0.06	0.23
Interviewer, Emmanuel	0.00	0.06	0.00	0.07
Interviewer, Esmeida	0.14	0.35	0.14	0.35
Interviewer, Gabriela	0.04	0.20	0.04	0.20
Interviewer, Maira	0.05	0.21	0.05	0.22
Interviewer, Maximo	0.04	0.19	0.04	0.19
Interviewer, Miguelina	0.00	0.06	0.00	0.07
Interviewer, MiguelinaArrendel	0.02	0.12	0.02	0.13
Interviewer, Reina	0.19	0.39	0.19	0.39
Interviewer, Yrene	0.05	0.21	0.04	0.19
Interviewer, Fabia	0.03	0.16	0.03	0.16
Interviewer, Anastasia	0.08	0.27	0.07	0.25

A.3: Elasticity of Demand for Credit, OLS and Tobit Estimates, Full Models

	OLS Regressions		Tobit Regressions	
	(1)	(2)	(3)	(4)
Age	0.001 (0.003)	0.001 (0.003)	0.001 (0.002)	0.001 (0.002)
Education, 1(Illiterate)-7(Completed College)	0.024 (0.024)	0.036 (0.024)	0.024 (0.020)	0.036 (0.020)
Vocational Training	0.189* (0.082)	0.198* (0.079)	0.189** (0.067)	0.198** (0.067)
Dependents in Elementary School	-0.013 (0.021)	-0.002 (0.020)	-0.013 (0.017)	-0.002 (0.017)
Access to Water	-0.023 (0.035)	-0.026 (0.034)	-0.023 (0.028)	-0.026 (0.029)
Haitian Relatives	-0.141 (0.106)	-0.184 (0.099)	-0.141 (0.087)	-0.184* (0.085)
Primary Income, Own Business	-0.182 (0.124)	-0.132 (0.119)	-0.182 (0.101)	-0.132 (0.102)
Primary Income, Wage Labor	-0.365* (0.146)	-0.344* (0.137)	-0.365** (0.119)	-0.344** (0.117)
Annual Savings, 0-5% of Income	-0.113 (0.100)	-0.032 (0.096)	-0.113 (0.081)	-0.032 (0.082)
Annual Savings, 5-10% of Income	-0.05 (0.046)	-0.032 (0.045)	-0.05 (0.037)	-0.032 (0.038)
Savings, 0-500 Pesos DR	-0.057 (0.089)	-0.03 (0.087)	-0.057 (0.073)	-0.03 (0.074)
Savings, 500-1000 Pesos DR	0.09 (0.079)	0.111 (0.078)	0.09 (0.064)	0.111 (0.066)
Religious Rating, 1(Not Religious)-8(Very Religious)	-0.014 (0.015)	-0.011 (0.014)	-0.014 (0.012)	-0.011 (0.012)
Community Involvement, 1(Always)-4(Never)	0.03 (0.028)	0.035 (0.028)	0.03 (0.023)	0.035 (0.024)
Actual Loan, When Surveyed	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Actual Loan Term, When Surveyed	0 (0.002)	0 (0.002)	0 (0.002)	0 (0.002)
Actual Effective Annual Interest Rate, When Survey	0 (0.013)	-0.004 (0.013)	0 (0.011)	-0.004 (0.011)
Actual Voluntary Savings Total, When Surveyed	-0.001 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.002 (0.002)
Esperanza Health Services	-0.093 (0.106)	-0.018 (0.100)	-0.093 (0.087)	-0.018 (0.086)
Loan Purpose, Quasi-Fixed Inputs	0.17 (0.100)	0.177 (0.097)	0.170* (0.082)	0.177* (0.083)
Monthly Sales, 0-5000 Pesos DR	-0.332** (0.120)	-0.306* (0.119)	-0.332*** (0.098)	-0.306** (0.102)

Monthly Sales, 5000-10000 Pesos DR	-0.111 (0.129)	-0.06 (0.127)	-0.111 (0.105)	-0.06 (0.109)
Monthly Sales, 10000-15000 Pesos DR	-0.066 (0.129)	-0.063 (0.126)	-0.066 (0.105)	-0.063 (0.108)
Monthly Sales, 15000-20000 Pesos DR	-0.013 (0.139)	0.021 (0.139)	-0.013 (0.113)	0.021 (0.119)
Monthly Sales, 20000 or more Pesos DR	0.072 (0.197)	0.15 (0.191)	0.072 (0.161)	0.15 (0.163)
Sum of Esperanza Loans Before Cornell Survey	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Debt Outside of Esperanza	0.065 (0.063)	0.041 (0.062)	0.065 (0.051)	0.041 (0.053)
Number of Loans Recieved, All Lenders	0.002 (0.009)	-0.002 (0.009)	0.002 (0.007)	-0.002 (0.008)
Loan History, Late Repayment, All Lenders	0.036 (0.081)	-0.038 (0.078)	0.036 (0.066)	-0.038 (0.066)
Debt Level, 1(Low)-3(High)	-0.057 (0.061)	-0.033 (0.058)	-0.057 (0.050)	-0.033 (0.049)
Credit Rationing Esperanza, 1(Strongly Disagree)-5(Strongly Agree)	0.02 (0.020)	0.016 (0.020)	0.02 (0.016)	0.016 (0.017)
Credit Necessary to Purchase Sufficient Food	0.015 (0.076)	-0.017 (0.068)	0.015 (0.062)	-0.017 (0.058)
Credit Rationing Consumption, 1(Disagree)-5(Strongly Agree)	-0.052* (0.025)	-0.054* (0.023)	-0.052* (0.020)	-0.054** (0.019)
Credit Rationing Business, 1(Disagree)-5(Strongly Agree)	-0.001 (0.025)	-0.022 (0.022)	-0.001 (0.020)	-0.022 (0.019)
Risk, 1(Risk Averse)-5(Risk Seeking)	0.035* (0.018)	0.040* (0.017)	0.035* (0.015)	0.040** (0.015)
Interest Rate Aware	-0.134 (0.078)	-0.137 (0.074)	-0.134* (0.064)	-0.137* (0.063)
If Rate Increased, Borrow More	0.067 (0.115)	0.021 (0.110)	0.067 (0.094)	0.021 (0.094)
If Rate Increased, Borrow Less	-0.028 (0.070)	-0.061 (0.064)	-0.028 (0.057)	-0.061 (0.054)
If Rate Decreased, Borrow More	0.246** (0.081)	0.231** (0.079)	0.246*** (0.066)	0.231*** (0.067)
If Rate Decreased, Borrow Less	-0.354 (0.195)	-0.208 (0.183)	-0.354* (0.159)	-0.208 (0.156)
Survey Treatment A	-0.014 (0.064)	-0.054 (0.061)	-0.014 (0.052)	-0.054 (0.052)
Surveyed at Bank Meeting	-0.056 (0.110)	-0.138 (0.102)	-0.056 (0.090)	-0.138 (0.087)
Difference b/w Actual and Variant Loans	0.000* (0.000)	0.000* (0.000)	0.000** (0.000)	0.000* (0.000)
Time Between Esperanza and Cornell Surveys	0.007 (0.007)	0.003 (0.007)	0.007 (0.006)	0.003 (0.006)
Answered "No" to All Loan Options	0.629*** (0.108)	0.648*** (0.097)	0.629*** (0.088)	0.648*** (0.082)

Individual Loan	0.065 (0.151)	0.005 (0.151)	0.065 (0.123)	0.005 (0.128)
Man	-0.173 (0.429)	-0.384 (0.426)	-0.173 (0.350)	-0.384 (0.364)
Variant Loan Length	0.016 (0.071)	0.031 (0.068)	0.016 (0.058)	0.031 (0.058)
Branch, Hato Mayor	-0.576 (0.296)	-0.208 (0.129)	-0.576* (0.242)	-0.208 (0.110)
Branch, San Pedro de Macoris	-0.17 (0.258)	-0.124 (0.116)	-0.17 (0.211)	-0.124 (0.099)
Branch, Alcarrazos	-0.246 (0.289)	-0.246 (0.185)	-0.246 (0.236)	-0.246 (0.158)
Branch, Guaricanos	-0.295 (0.440)	-0.429 (0.239)	-0.295 (0.359)	-0.429* (0.204)
Branch, Puerto Plata	-0.4 (0.567)	-0.421** (0.158)	-0.4 (0.463)	-0.421** (0.135)
Interviewer, Mirna	-0.008 (0.573)		-0.008 (0.468)	
Interviewer, Astia	-0.064 (0.559)		-0.064 (0.457)	
Interviewer, Lourdes	-0.116 (0.551)		-0.116 (0.450)	
Interviewer, Emmanuel	0.655 (0.676)		0.655 (0.552)	
Interviewer Esmeida	0.116 (0.552)		0.116 (0.450)	
Interviewer, Gabriela	0.107 (0.557)		0.107 (0.455)	
Interviewer, Maira	-0.256 (0.549)		-0.256 (0.448)	
Interviewer, Maximo	0.379 (0.556)		0.379 (0.454)	
Interviewer, Miguelina Arrendel	0.404 (0.616)		0.404 (0.503)	
Interviewer, Reina	0.508 (0.576)		0.508 (0.470)	
Interviewer, Yrene	-0.203 (0.450)		-0.203 (0.368)	
Interviewer, Fabia	0.06 (0.597)		0.06 (0.487)	
Constant	1.032 (1.471)	1.117 (1.348)	1.032 (1.201)	1.117 (1.149)
<hr/>				
sigma				
Constant			0.273*** (0.014)	0.291*** (0.015)
<hr/>				
Observations	198	198	198	198

Notes: Ordinary Least Squares and Tobit models reported; standard errors in parentheses. Dependent variable is the best elasticity estimate.

* p<0.05, ** p<0.01,

*** p<0.001

A.4: Robustness Check: Elasticity of Demand for Credit, OLS and Tobit Estimates

(Subsample of Clients with Esperanza Survey data predating the Cornell Survey)

	OLS Regressions		Tobit Regressions	
	(1)	(2)	(3)	(4)
Age	0.003 (0.005)	0.003 (0.004)	0.003 (0.003)	0.004 (0.003)
Education, 1(Illiterate)-7(Completed College)	0.046 (0.053)	0.032 (0.046)	0.046 (0.035)	0.05 (0.034)
Vocational Training	0.06 (0.182)	0.128 (0.172)	0.06 (0.120)	0.171 (0.131)
Dependents in Elementary School	-0.024 (0.038)	-0.017 (0.033)	-0.024 (0.025)	-0.009 (0.024)
Access to Water	-0.044 (0.060)	-0.032 (0.058)	-0.044 (0.040)	-0.06 (0.042)
Haitian Relatives	-0.311 (0.208)	-0.339 (0.182)	-0.311* (0.137)	0.365* (0.135)
Primary Income, Own Business	-0.276 (0.221)	-0.179 (0.205)	-0.276 (0.146)	-0.2 (0.147)
Primary Income, Wage Labor	-0.183 (0.258)	-0.221 (0.229)	-0.183 (0.170)	-0.273 (0.166)
Annual Savings, 0-5% of Income	-0.108 (0.187)	0.061 (0.178)	-0.108 (0.123)	0.087 (0.129)
Annual Savings, 5-10% of Income	-0.088 (0.083)	-0.014 (0.082)	-0.088 (0.055)	-0.016 (0.059)
Savings, 0-500 Pesos DR	0.128 (0.147)	0.125 (0.143)	0.128 (0.097)	0.215 (0.108)
Savings, 500-1000 Pesos DR	0.106 (0.145)	0.079 (0.138)	0.106 (0.096)	0.179 (0.104)
Religious Rating, 1(Not Religious)-8(Very Religious)	-0.032 (0.029)	-0.015 (0.025)	-0.032 (0.019)	-0.014 (0.018)
Community Involvement, 1(Always)-4(Never)	0.028 (0.056)	0.043 (0.054)	0.028 (0.037)	0.02 (0.039)
Actual Loan, When Surveyed	0 (0.000)	0 (0.000)	0 (0.000)	0 (0.000)
Actual Loan Term, When Surveyed	0 (0.003)	0 (0.003)	0 (0.002)	0.001 (0.002)
Actual Effective Annual Interest Rate, When Surveyed	-0.002 (0.022)	0.003 (0.020)	-0.002 (0.014)	0.008 (0.015)
Actual Voluntary Savings Total, When Surveyed	-0.004 (0.004)	-0.002 (0.004)	-0.004 (0.003)	-0.003 (0.003)
Esperanza Health Services	0.037	0.201	0.037	0.236

	(0.199)	(0.184)	(0.131)	(0.138)
Loan Purpose, Quasi-Fixed Inputs	0.01	0.028	0.01	0.018
	(0.181)	(0.166)	(0.119)	(0.121)
Monthly Sales, 0-5000 Pesos DR	-0.323	-0.317	-0.323*	0.283*
	(0.206)	(0.191)	(0.136)	(0.139)
Monthly Sales, 5000-10000 Pesos DR	-0.064	-0.039	-0.064	0.009
	(0.208)	(0.193)	(0.137)	(0.144)
Monthly Sales, 10000-15000 Pesos DR	-0.03	-0.058	-0.03	0.072
	(0.215)	(0.202)	(0.142)	(0.157)
Monthly Sales, 15000-20000 Pesos DR	0.017	-0.002	0.017	0.136
	(0.229)	(0.223)	(0.151)	(0.166)
Monthly Sales, 20000 or more Pesos DR	0.253	0.224	0.253	0.363
	(0.312)	(0.289)	(0.206)	(0.211)
Sum of Esperanza Loans Before Cornell Survey	0	0	0	0
	(0.000)	(0.000)	(0.000)	(0.000)
Debt Outside of Esperanza	0.171	0.18	0.171*	0.195*
	(0.116)	(0.115)	(0.077)	(0.082)
Number of Loans Recieved, All Lenders	0	-0.009	0	-0.008
	(0.023)	(0.021)	(0.015)	(0.015)
Loan History, Late Repayment, All Lenders	-0.065	-0.169	-0.065	0.207*
	(0.158)	(0.141)	(0.104)	(0.103)
Debt Level, 1(Low)-3(High)	0.045	0.015	0.045	0.014
	(0.118)	(0.112)	(0.078)	(0.080)
Credit Rationing Esperanza, 1(Strongly Disagree)-5(Strongly Agree)	0.033	0.01	0.033	-0.005
	(0.035)	(0.032)	(0.023)	(0.024)
Credit Necessary to Purchase Sufficient Food	0.033	0.02	0.033	-0.004
	(0.141)	(0.123)	(0.093)	(0.089)
Credit Rationing Consumption, 1(Disagree)-5(Strongly Agree)	-0.034	-0.055	-0.034	0.063*
	(0.046)	(0.036)	(0.030)	(0.026)
Credit Rationing Business, 1(Disagree)-5(Strongly Agree)	0.028	0.021	0.028	0.014
	(0.052)	(0.045)	(0.034)	(0.033)
Risk, 1(Risk Averse)-5(Risk Seeking)	0.070*	0.064*	0.070**	**
	(0.031)	(0.029)	(0.020)	(0.021)
Interest Rate Aware	-0.081	-0.121	-0.081	-0.097
	(0.147)	(0.126)	(0.097)	(0.097)
If Rate Increased, Borrow More	-0.057	0.009	-0.057	0.208
	(0.244)	(0.213)	(0.161)	(0.165)
If Rate Increased, Borrow Less	-0.021	-0.068	-0.021	-0.043
	(0.117)	(0.105)	(0.077)	(0.076)
If Rate Decreased, Borrow More	0.226	0.16	0.226*	0.147
	(0.143)	(0.134)	(0.094)	(0.099)
If Rate Decreased, Borrow Less	-0.851*	-0.578	-0.851***	0.558*
	(0.358)	(0.299)	(0.236)	(0.218)
Survey Treatment A	-0.093	-0.116	-0.093	-0.124
	(0.118)	(0.111)	(0.078)	(0.085)
Surveyed at Bank Meeting	-0.191	-0.222	-0.191	-0.193
	(0.216)	(0.176)	(0.142)	(0.140)

Difference b/w Actual and Variant Loans	0	0	0	0
	(0.000)	(0.000)	(0.000)	(0.000)
Time Between Esperanza and Cornell Surveys	-0.016	-0.013	-0.016	-0.012
	(0.023)	(0.022)	(0.015)	(0.017)
Answered "No" to All Loan Options	0.479*	0.643***	0.479***	0.677* **
	(0.186)	(0.163)	(0.123)	(0.118)
Individual Loan	0.147	0.165	0.147	0.172
	(0.314)	(0.309)	(0.207)	(0.223)
Man	0	0	0	0
	(.)	(.)	(.)	(.)
Variant Loan Length	0.328	0.22	0.328*	0.156
	(0.222)	(0.217)	(0.146)	(0.155)
Branch, Hato Mayor	-0.488	-0.223	-0.488	-0.301
	(0.654)	(0.227)	(0.431)	(0.163)
Branch, San Pedro de Macoris	0.168	-0.045	0.168	0
	(0.613)	(0.198)	(0.404)	(0.143)
Branch, Alcarrazos	-0.01	-0.14	-0.01	-0.139
	(0.768)	(0.385)	(0.506)	(0.275)
Branch, Guaricanos	-0.181	-0.324	-0.181	-0.414
	(0.686)	(0.360)	(0.452)	(0.265)
Branch, Puerto Plata	0.027	-0.392	0.027	
	(0.804)	(0.276)	(0.530)	
Interviewer, Mirna	0.297		0.297	
	(0.859)		(0.566)	
Interviewer, Astia	0.265		0.265	
	(0.823)		(0.543)	
Interviewer, Lourdes	-0.143		-0.143	
	(1.005)		(0.663)	
Interviewer, Emmanuel	0.909		0.909	
	(1.007)		(0.664)	
Interviewer Esmeida	0.031		0.031	
	(0.916)		(0.604)	
Interviewer, Gabriela	0.369		0.369	
	(0.984)		(0.649)	
Interviewer, Maira	-0.663		-0.663	
	(0.978)		(0.645)	
Interviewer, Maximo	0.814		0.814	
	(0.864)		(0.569)	
Interviewer, Miguelina Arrendel	0.44		0.44	
	(0.969)		(0.639)	
Interviewer, Reina	0.727		0.727	
	(0.964)		(0.636)	
Interviewer, Yrene	-0.09		-0.09	
	(0.573)		(0.378)	
Interviewer, Fabia	0.073		0.073	
	(0.983)		(0.648)	
Constant	-1.213	-1.047	-1.213	-1.194
	(2.549)	(2.370)	(1.681)	(1.730)
sigma				
Constant			0.245***	0.276*

**

			(0.016)	(0.019)
Observations	115	115	115	115

Notes: Ordinary Least Squares and Tobit models reported; standard errors in parentheses. Dependent variable is the best elasticity estimate.

* p<0.05, ** p<0.01, *** p<0.001

A.5: Variable Key

Variable	Description	Source File
Age	Age of the client when Surveyed	Esperanza Data Base: Current Clients file
Education	Education, Scale 1-5: 1, Illiterate; 2, Elementary; 3 Middle School; 4, Some/all of High School; 5, Some/all of University or Technical School	Esperanza DATA BASE: Current Clients file
Vocational Training	Vocational Training	Esperanza DATA BASE: Client Survey
Dependents, Elementary	Number of Dependents in Elementary School	Cornell Survey
Water, Access	Household Access to Water, Scale 1-3: 1, Always; 2, Sometimes; 3, Never	Cornell Survey
Haitian Relatives	Whether the Client has any Haitian Relatives	Cornell Survey
Income Source, Own Business	Greatest Income Source: Own business (omitted variable, remittances or no regular income)	Cornell Survey
Income Source, Paid Work	Greatest Income Source: Paid Work (omitted variable, remittances or no regular income)	Cornell Survey
Religious Rating	Self described religious sense, Scale 1(not Religious) to 8 (Very Religious)	Cornell Survey
Community Involvement	Involvement in "Solving Community Problems" 1, always; 2, often; 3, sometimes; 4, never	Cornell Survey
Amount Disbursed	Size of Loan	Cornell Survey
Length of Loan	Length of Loan	Cornell Survey
Effective Interest Rate	Effective Interest Rate	Cornell Survey
Voluntary Savings	Voluntary Savings	Cornell Survey
Esperanza Health Services	Size of Loan	Cornell Survey
Industry	Primary Business: Industry	Cornell Survey
Service	Primary Business: Service	Cornell Survey
Agriculture	Primary Business: Agriculture	Cornell Survey
Loan, Productive Investment	Loan Investment: Productive short-term (i.e. ingredients, machinery, or equipment that you will replace multiple times within one year) OR Productive long-term (i.e. ingredients, machinery, or equipment that you will only have to buy once in a year. Note: Some Clients selected multiple entries	Cornell Survey: Demand Supplement

Monthly Sales, 0-5000 Pesos DR	Reported Monthly Business Sales	Esperanza DATA BASE: Client Survey
Monthly Sales, 5000-10000 Pesos DR	Reported Monthly Business Sales	Esperanza DATA BASE: Client Survey
Monthly Sales, 10000-15000 Pesos DR	Reported Monthly Business Sales	Esperanza DATA BASE: Client Survey
Monthly Sales, 15000-20000 Pesos DR	Reported Monthly Business Sales	Esperanza DATA BASE: Client Survey
Monthly Sales, 20000 or more Pesos DR	Reported Monthly Business Sales	Esperanza DATA BASE: Client Survey
Loans Obtained Prior to Survey, Sum Pesos DR	Sum of Esperanza Loans Taken Prior to survey	Esperanza DATA BASE: Loan Information
Loans Received Prior to Survey, Number	Number of Loans Received From formal financial institutions	Cornell Survey
Loan Paid Late	Have they Ever repaid a loan late to a family member, friend, moneylender, NGO, or Bank	Cornell Survey
Debt Scale	How would they rate their level of debt. , Very Low or Low; 2, Manageable; 3, High or very High	Cornell Survey
Rationing, Esperanza	Esperanza has lent them less than they wanted: 1, Strongly Disagree; 2, Disagree; 3, Neutral; 4, Agree; 5, Strongly Agree.	Cornell Survey
Credit Necessary to Purchase Sufficient Food	If the client faced a borrowing constraint, they would not be able to acquire adequate food through the year. Agree or Strongly Agree. (omitted variables, Neutral, Disagree, or Strongly Disagree).	Cornell Survey
Credit Rationing, Consumption	The Client is able to borrow the needed amount of money from development organizations and banks for consumption, education and health purposes. 1, Strongly Disagree; 2, Disagree; 3, Neutral; 4, Agree; 5, Strongly Agree.	Cornell Survey
Credit Rationing, Business	The Client is able to borrow the needed amount of money from development organizations and banks for business purposes. 1, Strongly Disagree; 2, Disagree; 3, Neutral; 4, Agree; 5, Strongly Agree.	Cornell Survey
Willingness to Take Risks	The client is willing to take risks to increase the chance of higher profits. 1(Not willing to take risks) to 5 (Willing to take risks)	Cornell Survey
Interest Rate Aware	The client was able reported an interest rate on their loan, as opposed to leaving it blank.	Cornell Survey

Increase Rate, Borrow the Same	The client would borrow the same amount if the interest rate on their loan increased (omitted variable, borrow more)	Cornell Survey: Demand Supplement
Increase Rate, Borrow More	The client would borrow less if the interest rate on their loan increased (omitted variable, borrow more)	Cornell Survey: Demand Supplement
Decreased Rate, Borrow More	The client would borrow more if the interest rate on their loan decreased (omitted variables, borrow the same or less)	Cornell Survey: Demand Supplement
Annual Savings, 0-5percent	Annual Savings, 0-5% of Income (omitted variable, More than 10%)	Cornell Survey
Annual Savings, 5-10percent	Annual Savings, 5-10% of Income (omitted variable, More than 10%)	Cornell Survey
Accumulated Savings, 0-500 Pesos DR	Savings, Pesos (omitted variable Savings more than 1000 Pesos)	Esperanza DATA BASE: Client Survey
Accumulated Savings, 500-1000 Pesos DR	Savings, Pesos (omitted variable Savings more than 1000 Pesos)	Esperanza DATA BASE: Client Survey
Treatment A, Interest rate in Descending Order	In the Demand Supplement, Interest Rates decreased from 8% monthly to 0% monthly	Cornell Survey: Demand Supplement
Survey, Immediately Following Bank Meeting	Whether the Interview occurred during or immediately after a meeting	Cornell Survey
Variant – Actual Loan, Difference	Difference Between Demand Variant Base, and Actual Loan Size	Cornell Survey: Demand Supplement; Esperanza DATA BASE: Loan Information
Branch	Branch	Cornell Survey
Interviewer	Interviewer	Cornell Survey
Time between Surveys	Time between Cornell and Esperanza Surveys	Cornell Survey; Esperanza DATA BASE: Client Survey
Responded “No” to all answers	Client Responded "No" to all loans proposed in any of the demand supplement questions	Cornell Survey: Demand Supplement

APPENDIX B SURVEY INSTRUMENTS

B.1: Cornell Survey Instrument, English (Questions in bold have been incorporated into the analysis. Questions followed by an * were marked by interviewers as problematic.)

<p>Cornell University/Esperanza International Survey to Assess Credit Demand, Specific Credit Rationing Issues, Informal Lending among Friends and Relatives, and Repayment</p>
--

NARRATIVE TO BE READ TO RESPONDENTS: First of all I would like to thank you for taking the time to meet with us. This survey should take about an hour and again, thank you for your time. The survey we are conducting is a joint product between Cornell University in the United States and Esperanza International. We are interested in collecting information about the problems that you face in borrowing from bank and other financial institutions. We would like to inform you that we have available to us your personal loan information provided by Esperanza by code number and not by your name. We would like your permission to use this information along with your responses to this survey for research purposes only. I can assure you that your responses will be completely confidential and under no circumstances will your responses be identifiable by us, Esperanza, or any other party. Furthermore, any link between your responses in the survey and information provided by Esperanza will be completely anonymous. In addition, we understand that you may not have all of the precise information available. In these cases all we ask is that you provide us with your best estimates or best judgments. Finally, you have the right to refuse to answer any question we might ask.

Given these objectives are you willing to participate in this survey? YES NO

If YES, PLEASE sign below

_____ **x**

and PLEASE print your name.

_____ **x**

If NO then: *Ok, that is fine. For our records can you tell us why you do not want to participate?*

NOTE to INTERVIEWER: If answer above is because respondent does not feel they have the information we need then ask why and explain again that we only require a best effort on their part, and that we expect that not all respondents will have precise information. And then ask if they will reconsider.

NOTE to INTERVIEWER: If answer above is related to privacy issues, then remind respondent that their participation will be most helpful to our research and that they will remain anonymous and that their privacy is guaranteed. And then ask if they will reconsider.

If YES then: *Thank you very much. For your participation you will receive a small gift. You will receive this gift even if you answer NO to the following question.*

Do we have your permission to use confidential information from Esperanza? YES NO.

If YES, PLEASE sign below.

Participant Signature (If the participant is not comfortable signing their name, they may mark an "X")

NOTE to INTERVIEWER: If answer above is related to privacy issues, then remind respondent that their participation will be most helpful to our research and that they will remain anonymous and that their privacy is guaranteed. And then ask if they will reconsider.

Signature of Interviewer _____ Date _____

Printed name of Interviewer obtaining consent _____ Date _____

This consent form will be kept by the researcher for at least three years beyond the end of the study and was approved by the IRB on [date].

Thank you again. Let's start. We would like to start off by asking some general questions about your household"..... Go to question 1.

Client and Loan Characteristics

i. The interview occurred:

Outside of a meeting _____ During or After a Programmed Meeting _____

iv. INTERVIEWER _____

1. Full Name _____
2. Esperanza Branch _____
3. City, town, or community _____
4. Age _____
5. Bank of Hope _____
6. How many loans have you taken out from Esperanza, including the current loan? _____
7. If you have a group loan, what amount are you responsible for repaying? _____
8. **What interest rate are you paying on your current loan?** _____ **Do not know** _____ *
9. What is the length of your current loan? _____
10. Which of the following best describes your primary business?
 - a) Commerce _____
 - b) Industry _____
 - c) Service _____
 - d) Agricultural _____
 - e) Other (please elaborate) _____

11. Which of the following best describes your main source of income?

- a. Own business _____
- b. Paid work _____
- c. Money from family/friends _____

12. Since taking out your current loan, which of the following best describes the amount of household income that is given to you by family or friends? *

- a. None _____
- b. At least a quarter _____
- c. At least half _____
- d. At least three quarters _____
- e. More than three quarters _____

13. How many regular salaried employees do you currently have? _____

14. How many non-salaried employees do you have, not counting yourself (i.e. family members that do not expect regular compensation in PESOS)? _____

15. What is your marital status? _____

- f) Married _____
 - g) Single _____
 - h) Widowed _____
 - i) Divorced _____
 - j) Cohabiting _____
16. Do you have a social security number? Yes ____ NO ____
17. **Do you have Haitian family?**
- a. NO ____
 - b. Yes, My parents, grandparents etc emigrated. _____
18. What was the total household income in the past year from all sources (best guess)
* _____
19. What was your total household income in the last month? (best guess)* _____
20. What is the total amount of money that your household spent in the last month? (best guess)

21. Including yourself how many people live in your household? _____
(INTERVIEWER: *this is the total number of people sharing the house of the respondent including children, parents etc*)
22. Among dependents:
- a. How many are too young for school? _____
 - b. How many are in elementary school? _____
 - c. How many are in high school? _____
 - d. How many are in college (university)? _____
 - e. How many are elderly? _____
 - f. How many are ill/incapacitated? _____
23. What is your highest education level of education?
- a. Never went to school ____ Some Elementary/Middle School ____
 - b. Completed Elementary/Middle School _____
 - c. Some High school _____
 - d. Completed High School _____
 - e. Some University ____
 - f. Completed University _____
 - g. Some Technical School _____
 - h. Completed Technical School _____

24. Does your household have electricity?
- Yes _____
 - Sometimes _____
 - No because I/we can not afford it _____
 - No because it is not available _____
25. **Does your household have running water?**
- Yes _____
 - Sometimes _____
 - No because I/we can not afford it _____
 - No because it is not available _____
26. Does your household have telephone service?
- Yes _____
 - Sometimes _____
 - No because I/we can not afford it _____
 - No because it is not available _____
 - No and we do not want it _____
27. Do you have access to a cell phone?
- Yes, always _____
 - Yes, sometimes _____
 - Yes, but not often _____
 - No, never _____
28. **On a scale of 1 to 8 with 8 being extremely religious, how religious do you consider yourself?**
Not Religious at all 1 2 3 4 5 6 7 8 Extremely Religious
29. If you subscribe to a religion, which faith are you a member of?
- Catholic** _____
 - Protestant** _____
 - Baptist** _____
 - Methodist** _____
 - Pentecostal** _____
 - 7th Day Adventist** _____
 - Other** _____
 - (1) **Mormon** _____
 - (2) **Jehovah's Witness** _____
- c. Other _____
30. Do you involve yourself in solving your community's problems?
- YES, always** _____
 - YES, often** _____
 - YES, sometimes** _____
 - NO, never** _____
31. **Has being a member of Esperanza has allowed you to receive at least one health service? YES NO If yes Please Indicate which**
- Papsmear** _____
 - Dental Services** _____
 - Group Health Discussions** _____
 - Other** _____

INTERVIEWER: Thank you so much for all of that information, now we will move on to the next section. With these questions we want to learn what size loans and what interest rates you prefer.

Credit Demand:

INTERVIEWER: please move to the supplemental Credit Demand sheet.

Thank you so much for that information. Now we would like to question you on your finances, and more specifically on your experiences borrowing and lending.

Finance and Risk Management

32. Aside from your loan with Esperanza, do you have any debt outstanding? YES __ NO __ *

- a. IF YES please indicate the total amount of money you owe including money owed to _____
- b. Friends _____
- c. Relatives _____
- d. Money lenders _____
- e. Development organizations _____
- f. Commercial banks _____
- g. Other (Please list source and amount) _____

h. Whether or not you have debt outstanding, please indicate the approximate interest rates of these loans. *INTERVIEWER: "This is very helpful. Now I would like to ask you about interest rates charged on the most recent loan that you have had by source. For each of lender types I will list I would like you to provide the 'ACTUAL' interest rate charged. If you have not borrowed from the lender type I would like you to indicate the interest rate that you 'BELIEVE' would be charged by the lender. What you believe could be based on rates that you have heard from friends or relatives, or any other source that you believe reliable." (INTERVIEWER: In each case read 'ACTUAL', 'BELIEVE', 'DON'T KNOW'*

- a) Friends ACTUAL _____ BELIEVE _____ DON'T KNOW _____
- b) Relatives ACTUAL _____ BELIEVE _____ DON'T KNOW _____
- c) Money lenders ACTUAL _____ BELIEVE _____ DON'T KNOW _____
- d) Development organizations ACTUAL _____ BELIEVE _____ DON'T KNOW _____
- e) Commercial banks ACTUAL _____ BELIEVE _____ DON'T KNOW _____
- f) Other ACTUAL _____ BELIEVE _____ DON'T KNOW _____

33. If you sell all your assets (business, home, land, livestock etc.) how much will you get (in PESOS) _____. *INTERVIEWER: This may be a difficult question to answer because it places a value on the asset values. If respondent does not know or does not understand, simply enter Don't Know.*

34. Regarding your current total amount of debts, assets and productivity, what do you think about your debt level? (Use a 1 to 5 scale with 1 = very low, 2 = low, 3 = manageable, 4 = high, and 5 = very high (Circle the most appropriate response).

- a. 1 = very low
- b. 2 = low
- c. 3 = manageable
- d. 4 = high
- e. 5 = very high

35. How many loans have you requested from formal financial institutions in the past? _____

36. **How many loans have you received from formal financial institutions in the past?** _____

37. Among loans that you have requested from formal institutions in the past, how many were the full amount that you requested?

38. Have you ever been denied a loan by a formal financial institution (development organization or commercial bank) in the past excluding Esperanza? YES _____

NO _____

- a. If YES what are the major reasons you were denied credit? (answer more than one if necessary)
- b. Insufficient collateral _____

- c. Main source of income subject to too much price risk _____
- d. I have failed to repay the loan in the past _____
- e. Bank does not believe I am trustworthy _____
- f. The development organization or commercial bank does not /did not believe that I earn/ed enough income _____
- g. The repayment schedule required by the formal financial institution (development organization or commercial bank) does not match the timing of sales from my small business

39. Have you ever been late in repaying a loan? (INTERVIEWER: By 'being late' we mean that payment was not promptly paid as agreed upon by the lender, but payment was eventually made.)

- a. Relative YES _____ No _____
- b. Friend YES _____ No _____
- c. Money Lender YES _____ No _____
- d. Esperanza YES _____ No _____
- e. Development organization/bank other than Esperanza YES _____ No _____
- f. Commercial Bank YES _____ No _____
- g. Other YES _____ No _____

40. Have you ever defaulted on a loan (that is not repaid)? (INTERVIEWER: By defaulting we mean that loan was NEVER repaid as agreed upon by the lender)

- a. Relative YES _____ No _____
- b. Friend YES _____ No _____
- c. Money Lender YES _____ No _____
- d. Esperanza YES _____ No _____
- e. Development organization/bank YES _____ No _____
- f. Commercial Bank YES _____ No _____
- g. Other YES _____ No _____

INTERVIEWER: Now I would like to ask you some questions about the borrowing environment. For these questions please respond with one of the following Strongly Agree, Moderately Agree, Agree, Disagree, Moderately Disagree, Strongly Disagree. (Interviewer after reading each question repeat the list starting with Strongly agree)

41. Esperanza is more flexible in repayment terms than other development organizations or commercial banks.

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

42. Money lenders are more flexible in repayment terms than other development organizations or commercial banks .

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

43. Relatives are more flexible in repayment terms than other development organizations or commercial banks. *

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

44. Friends are more flexible in repayment terms than other development organizations or commercial banks.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
45. Borrowing from relatives or friends causes them hardship.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
46. I would be willing to pay more than a development organization or commercial bank interest rate in order to obtain a loan.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
47. Who did you last borrow money from? (before your current loan)
- Relative _____
 - Friend _____
 - Moneylender _____
 - Esperanza _____
 - Development Organization (Not including Esperanza) _____
 - Commercial Bank _____
 - Other _____
48. Recalling the last time you borrowed money (before your current loan) what was it for? (INTERVIEWER read the following list)
- Business development _____
 - Health/medicine _____
 - Wedding _____
 - Funeral _____
 - School tuition _____
 - Production agriculture (fertilizer, seed, hired labour etc) _____
 - Machinery and equipment _____
 - House construction. _____
 - Household consumption _____
 - Holiday/vacation _____
 - Other (INTERVIEWER to write down item) _____

INTERVIEWER: *Thank you for your patience. I have just a few more questions on TRUST that I would like to ask you. For these questions please respond to one of the following Strongly Agree, Moderately Agree, Agree, Disagree, Strongly Disagree.* (Interviewer after reading each question repeat the list starting with strongly agree)

49. You trust that the members of your group will repay on time.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____

50. If you make a loan to a family member or relative, you TRUST the family member/relative to pay it back within a reasonable period of time
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
51. If you make a loan to a friend, you TRUST the friend to pay it back within a reasonable period of time.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
52. If a family member or relative makes a loan to you the family member does so because the family member/relative TRUSTS that you will pay it back in a reasonable period of time.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
53. If a friend makes a loan to you the friend does so because the friend TRUSTS that you will pay it back in a reasonable period of time.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
54. In your community informal lending between friends and relatives occurs because you TRUST one another.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
55. If you had money available you would lend to a friend or a relative even though you **MAY NOT** TRUST them to repay the loan.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
56. If you needed a loan from Esperanza but do not have the collateral to support the loan, Esperanza will lend to you anyway because Esperanza TRUSTS you to pay it back.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
57. If you needed a loan from a development organization/bank other than Esperanza but do not have the collateral to support the loan, the bank will lend to you anyway because the development organization/bank TRUSTS you to pay it back.*

- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
58. If you needed a loan from a bank but do not have the collateral to support the loan, the bank will lend to you anyway because the bank TRUSTS you to pay it back.*
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
59. If you needed a loan from a Money Lender but do not have the collateral to support the loan, the Money Lender will lend to you anyway because the Money Lender TRUSTS you to pay it back.*
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
60. This is a hypothetical situation. Suppose that you owed 1,000 PESOS to each Esperanza, another development organization/bank, a commercial bank, a Money lender, friend, relative for a total indebtedness of 5,000 PESOS. Now suppose that you had available \$1,000 PESOS to repay the loans. Which of the following is most likely to occur (select only 1)?*
- a. You would pay back a family member or relative before anyone else
 - b. You would pay back a friend before anyone else
 - c. You would pay back Esperanza before anyone else
 - d. You would pay back the development organization/bank (not incl. Esperanza) before anyone else
 - e. You would pay back the commercial bank before anyone else
 - f. You would pay back the money lender before anyone else.
 - g. You would pay some money to all of the lenders

Credit Rationing Model

INTERVIEWER Thank you so much. With these next questions we want to get a sense of how difficult/easy it is for you to get the loans you want. For these questions please respond to the statements with one of the following: Strongly Agree, Moderately Agree, Agree, Disagree, Moderately Disagree, Strongly Disagree

61. Esperanza has given me a loan that I could not have received elsewhere.
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
62. **Esperanza has lent me less than I initially wanted.**
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
63. If I had more assets, then I could get a higher loan from a bank or development organization *without using the assets for collateral*.*
- a. Strongly Agree _____

- b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
64. If I had more assets, then I could get a higher loan from a bank or development organization but *only if I use the assets as collateral.* *
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
65. If I had more assets, then I could get a higher loan from a bank or development organization, at a lower interest rate, without using the assets as collateral. *
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
66. If I had more assets, then I could get a higher loan from a bank or development organization, at a lower interest rate, but only if I use the assets as collateral. *
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____

Credit Rationing Impact

Please answer the following questions. Interviewer here we use the term 'borrowing constraint'. By borrowing constraint we mean that the owner of the microenterprise cannot obtain all of the funds requested from a development organization or bank in the amounts or time frame required. For these questions please respond to the statements with one of the following: Strongly Agree, Moderately Agree, Agree, Disagree, Moderately Disagree, Strongly Disagree

67. If I faced a borrowing constraint I would use less input than is required for maximizing microenterprise income.*
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
68. If I faced a borrowing constraint I would need wages from additional employment.
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
69. If I faced a borrowing constraint I would not be able to provide a strong education and adequate health care for my children.*
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____

70. If I faced a borrowing constraint my family members (including me) would not be able to get adequate food throughout the year.*

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

71. If I could get adequate credit from a bank or development organization I would
- a. Move to a larger town or city and start a different more lucrative business there _____
 - b. Remain where I am and expand my microenterprise _____

Guilt questions

Thank you so much, now we are on to our next section. In this section we will ask you to respond on a scale from 1 to 8.

72. Have you ever defaulted on a loan from a family member? __ YES __ No
- a. If YES, how guilty did you feel? Not guilty 1 2 3 4 5 6 7 8 Very guilty
 - b. If no, how much guilt would you have felt if you had defaulted? Not guilty 1 2 3 4 5 6 7 8 Very guilt
73. Have you ever defaulted on a loan from a neighbor? __ YES __ No*
- a. If YES, how guilty did you feel? Not guilty 1 2 3 4 5 6 7 8 Very guilty
 - b. If no, how much guilt would you have felt if you had defaulted? Not guilty 1 2 3 4 5 6 7 8 Very guilty
74. Have you ever defaulted on a loan from Esperanza? __ YES __ No
- a. If YES, how guilty did you feel? Not guilty 1 2 3 4 5 6 7 8 Very guilty
 - b. If no, how much guilt would you have felt if you had defaulted? Not guilty 1 2 3 4 5 6 7 8 Very guilt
75. Have you ever defaulted on a loan from another financial institution? __ YES __ No*
- a. If YES, how guilty did you feel? Not guilty 1 2 3 4 5 6 7 8 Very guilty
 - b. If no, how much guilt would you have felt if you had defaulted? Not guilty 1 2 3 4 5 6 7 8 Very guilt
76. Have you ever defaulted on a loan from a moneylender? __ YES __ No
- a. If YES, how guilty did you feel? Not guilty 1 2 3 4 5 6 7 8 Very guilty
 - b. If no, how much guilt would you have felt if you had defaulted? Not guilty 1 2 3 4 5 6 7 8 Very guilt

INTERVIEWER: Thank you. For these next questions please respond with one of the following Strongly Agree, Moderately Agree, Agree, Disagree, Moderately Disagree, Strongly Disagree.

(Interviewer after reading each question repeat the list starting with Strongly agree)

77. The time of year makes a difference in whether or not I can repay a loan on time or at all.
- a. Strongly Agree _____
 - b. Agree _____
 - c. Neutral _____
 - d. Disagree _____
 - e. Strongly Disagree _____
78. If you in any way agree, this is due to which of the following (select all that apply)
- a. Weather _____
 - b. Changes in the numbers of Toursits _____
 - c. Agricultural harvests _____
 - d. Change in political administrations _____
 - e. Costs associated with my dependents (i.e. schooling) _____
 - f. Holidays and other community events _____
 - g. Other _____

79. My ability to repay is affected by the loan officer that is responsible for collecting my loan.
- Strongly Agree _____
 - Agree _____
 - Neutral _____
 - Disagree _____
 - Strongly Disagree _____
80. How many times has your loan officer arrived late to a meeting?
- Never _____
 - Few Times _____
 - Often _____
 - Always _____
81. On a scale from 1 to 5, Do you consider your loan officer to be an honest person?
(YES) 1 2 3 4 5 (NO)
82. On a scale from 1 to 5, Does your loan officer keep up on the development of your business?(YES) 1 2 3 4 5 (NO)
83. Has your loan officer visited you at least once in between programmed meetings?
YES ___ NO ___ *
84. In your history with Esperanza, how many loan officers have you had? _____
85. **What proportion of Household income are you able to save in a year (in PESOS):**
- None
 - Less than 5%
 - Between 5 and 10%
 - More than 10%
86. Which of the following best describes where you save your money?
- In a commercial bank account created by Esperanza _____
 - In a commercial bank account that was not created by Esperanza _____
 - In a development bank _____
 - In a cooperative _____
 - At home _____
 - With family and/or friends _____
 - I do not have any savings _____
87. If there is a significant reduction in uncertainty in your income would you be more likely to (select only 1)
- Decrease savings and increase investment in your business _____
 - Decrease savings and increase purchases of household consumer goods _____
 - Decrease savings and increase travel/vacation _____
 - Maintain the same amount of savings _____
 - Increase savings slightly _____
 - Increase savings significantly _____

INTERVIEWER: For these questions please respond to the statements with one of the following: Strongly Agree, Moderately Agree, Agree, Disagree, Moderately Disagree, Strongly Disagree

88. I am able to borrow needed amount of money from development organizations and banks for consumption, education and health purposes. *

- Strongly Agree _____
- Agree _____
- Neutral _____
- Disagree _____
- Strongly Disagree _____

89. I am able to borrow needed amount of money from development organizations or banks for business purposes.

- Strongly Agree _____
- Agree _____

- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

90. When I am not able to borrow a needed amount of money from development organizations and banks for **consumption, education and health** purposes, I find it convenient to borrow from

- a. Moneylenders _____
- b. Friends _____
- c. Relatives _____

91. When I am not able to borrow a needed amount of money from development organizations and banks for **business** purposes, I find it convenient to borrow from

- a. Moneylenders _____
- b. Friends _____
- c. Relatives _____

INTERVIEWER: For these questions please respond with one of the following Strongly Agree, Moderately Agree, Agree, Disagree, Moderately Disagree, Strongly Disagree. (INTERVIEWER after reading each question repeat the list starting with Strongly agree)

92. Whether or not you have ever defaulted on a loan from a development organization, bank, friend or a relative, **a lack of resources** would most likely be the cause of a default in the past or future.

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

93. Whether or not you have ever defaulted on a loan from a development organization, bank, friend or a relative, **the terms of contract not being clear** would most likely be the cause of a default in the past or future.

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

94. Whether or not you have ever defaulted on a loan from a development organization, bank, friend or a relative, **suffering a business loss/drawback** would most likely be the cause of a default in the past or future.

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

95. Whether or not you have ever defaulted on a loan from a development organization, bank, friend or a relative, **suffering a death or major sickness of a family member** would most likely be the cause of a default in the past or future.

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

96. Whether or not you have ever defaulted on a loan from a development organization, bank, friend or a relative, **diverting the loan for another purpose** would most likely be the cause of a default in the past or future.

- a. Strongly Agree _____

- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

97 a. Whether or not you have ever defaulted on a loan from a development organization, bank, friend or a relative, **other reasons not listed above** would be the cause of a default in the past or future.

- a. Strongly Agree _____
- b. Agree _____
- c. Neutral _____
- d. Disagree _____
- e. Strongly Disagree _____

Group Dynamics

97. How many groups have you had? * _____
- a. If you have been a member of more than one group, What was the reason for switching groups?
 - ii) Group grew in size and had to be split _____
 - iii) I moved homes _____
 - iv) I experienced problems group member/s _____
 - v) In general for any group loan, how well did you know the group members?
 - vi) Very Well _____
 - vii) Well _____
 - viii) Not Well _____
 - ix) Not at all _____
98. How well do you know the members of your current group?
- a. Very Well _____
 - b. Well _____
 - c. Not Well _____
 - d. Not at all _____
 - e. No Preference _____

Thank you so much, *For these questions please respond to the statements with one of the following: Strongly Agree, Moderately Agree, Agree, Disagree, Moderately Disagree, Strongly Disagree*

99. One a scale of 1 to 5, Would you prefer that members of your group be family members? (YES) 1 2 3 4 5 (NO)
100. On a scale of 1 to 5, Have you been satisfied with your group experience(s) overall? (YES) 1 2 3 4 5 (NO)
101. Consider the last group that you joined, please describe how your group was formed.
- a. Chose all group members _____
 - b. Chose some group members _____
 - c. Someone asked me to join _____
 - d. Was assigned a group by my loan officer _____
 - e. Other _____
102. Have any of your group members ever failed to fully pay any quota on time? YES ___ NO _____
- a. If YES, did a member of your Bank of Esperanza not including members of your immediate group pay the quota? YES _____ NO _____
103. Have you ever failed to fully pay a quota on time? YES _____ NO _____
- a. If YES, did a member of your Bank of Esperanza not including members of your

- group pay the quota? YES ____ NO ____
104. If you have taken out a group loan, has your group ever failed to fully pay a quota to Esperanza on time? YES ____ NO ____
- a. If your group **has** ever failed to fully pay a quota on time, what is the maximum number of days late that you were in repaying ? ____ Days ____ Did NOT Repay
105. On a scale from 1 to 5, Which type of loan do you prefer? Individual 1 2 3 4 5 Group
106. Do you plan to take out future loans from Esperanza? YES ____ NO ____ UNSURE ____
107. IF YES, how many loans do you plan to take out from Esperanza? At least 1 ____ Less than 5 ____ More than 5 ____
108. IF NO, will you borrow money from other sources? YES ____ NO ____
109. If you think of borrowing from others, who do you think of borrowing from?
- a. Friends ____
- b. Relatives ____
- c. Money lender ____
- d. Development organization (Not including Esperanza) ____
- e. Banks ____
- f. Others ____
110. Do you expect to fully repay all of the money owed to Esperanza?
- a. Fully repay on time ____
- b. Repay fully but late ____
- c. No ____

Sources of Risk and Risk Perceptions

INTERVIEWER: Thank you so much. We are now VERY close to finishing. For this next set of questions we ask that you take a moment to consider each statement and then answer on a scale of 1-5.

- 111. Please indicate if you are willing or not willing to take risks (Circle the most appropriate response).***

Statement	Not Willing to Take Risk		Neutral to Take risk		Willing to Take Risk
I am willing to accept greater risks...					
a. ...to increase the chance of higher profits	1	2	3	4	5
b. ...with new ventures or technologies before I see good results among others	1	2	3	4	5
c. ... with new management practices before I see good results among others	1	2	3	4	5

112. Please indicate how **important** you believe each item to be in terms of risk management in your business. Then, mark an "X" if **you do not use** this to manage risk in **your** operation. Scale with 1 = not important, 2 = less important, 3 = neutral, 4 = important, and 5 = very important (Circle the most appropriate response).*

INTERVIEWER: Thank you so much for all of that. We have finally gotten to our last question. For it we will ask that you imagine a hypothetical situation.

Risk Management Options	X if not used	Not Important				Very Important
a. Enterprise diversification, more than one business venture		1	2	3	4	5
b. Clients in different locations (geographic diversification)		1	2	3	4	5
c. Spreading sales: selling each product over a period of time rather than all at once (diversified marketing)		1	2	3	4	5
d. Using contracts to market your product in advance at a fixed price		1	2	3	4	5
f. Maintaining financial reserves: having cash and readily convertible assets		1	2	3	4	5
g. Investing in other sources of income		1	2	3	4	5

113. "Imagine that an honest stranger approaches you with a gamble that depends on the toss of a coin. If the coin lands heads you get the amount in the first column and if it lands tails you get the amount in the second column. If the gamble was repeated by many flips of the coin you would expect to receive the amount in the third column. Study the six gambles in the table and select the **one** gamble that you would prefer".*

Choice	Gain If coin falls Heads (PESOS)	Gain If coin falls Tails (PESOS)	Gain after playing several times (PESOS)
1	\$500	\$500	\$500
2	\$950	\$450	\$700
3	\$1200	\$400	\$800
4	\$1500	\$300	\$900
5	\$1900	\$100	\$1000
6	\$2000	0	\$1000

INTERVIEWER "Thank you this has been extremely helpful. We are incredibly thankful for your patience and honesty . Again, your answers will go towards understanding the types of loans you prefer, and the sorts of borrowing limitations that you experience. Overall we hope to improve the lending environment for you. Thank you again."

B.2: Demand Supplement, English Version with Loan Template

Credit Demand Estimation
Supplemental Section
TEMPLATE

Client ID: _____

Branch: _____

Gender: M ____ F ____

INTERVIEWER: First, we would like to ask you about the type of loans that you prefer.

2) Considering your current loan, which of the following would you want to do if interest rates INCREASED:

- a) Borrow MORE
- b) Borrow LESS
- c) Borrow the SAME AMOUNT
- d) Don't Know ____

3) Considering your current loan, which of the following would you want to do if interest rates DECREASED:

- a) Borrow MORE
- b) Borrow LESS
- c) Borrow the SAME AMOUNT
- d) Don't Know ____

4) Which of the following best describe what you have used and are using your loan for? Please select all that apply and rank with a number (1 indicating that you have spent more of your loan for this purpose, followed by 2,3 etc).

- a) Products for the Business ____
- b) Employee salaries ____
- c) Productive short-term (i.e. ingredients, machinery, or equipment that you will replace multiple times within one year) ____
- d) Productive long-term (i.e. ingredients, machinery, or equipment that you will only have to buy once in a year) ____

5) On a scale from 1 to 5, do you prefer to repay a loan in EQUAL quotas?
(Do not prefer) 1 2 3 4 5 (Prefer)

6) On a scale from 1 to 5, would you prefer to repay MORE of your loan in the BEGINNING of your loan period (i.e. larger quotas at the end)?
(Do not prefer) 1 2 3 4 5 (Prefer)

7) On a scale from 1 to 5, would you prefer to repay MORE of your loan in the END of your loan period (i.e. larger quotas at the end)?
(Do not prefer) 1 2 3 4 5 (Prefer)

INTERVIEWER: Now we would like to ask you more specific questions that are based on your current loan. For all of these questions we ask that you assume that you have taken a __ MONTH LOAN of __ PESOS from Esperanza.

7-14) Assume for this question that you have a __ MONTH loan of __ PESOS, and you make exactly the same investments as you indicated earlier. Now suppose that the rate were to increase/decrease from 4% to __ % per month or __ % Annual. This means that you would pay roughly __ MORE/LESS PESOS on your current loan per month with a total payment of __ PESOS per month. At this new interest rate which of the following loan amounts would you be willing to borrow if you could borrow as much as you want? (Please answer YES or NO to all options)

Loan Option	LOAN AMOUNT	BI-WEEKLY PAYMENT	TOTAL INTEREST	YES	NO
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					

B.3: Cornell Survey Instrument and Demand Supplement, Spanish Version

Esperanza International / Universidad de Cornell (Estados Unidos)

ENCUESTA para Evaluar la Demanda de Crédito, las Limitaciones de Crédito,

Préstamos Informales entre Amigos y Parientes, y Pago

NARRATIVA para leerles a los participantes:

En primer lugar, quisiera agradecerles por tomar el tiempo para encontrarse con nosotros. Esta encuesta debe durar aproximadamente una hora y otra vez, gracias por su participación. Esta encuesta es una colaboración entre la Universidad de Cornell en los Estados Unidos y Esperanza Internacional. Nos interesa recopilar información sobre las limitaciones que Ud. encuentra para conseguir préstamos de bancos y otras instituciones financieras. Quisiéramos informarle que tenemos dispuesto que la información sobre sus préstamos sea documentada

según código y no según su nombre. Quisiéramos tener su permiso para utilizar esta información además de sus respuestas a esta encuesta, solamente con el propósito de investigar. Puedo asegurarle que sus respuestas quedarán completamente confidencial y bajo ningún concepto será posible identificarlas con su nombre. Además de esto, cualquier enlace que exista entre sus respuestas a la encuesta y la información provista por Esperanza será completamente anónima. También, entendemos que es posible que Ud. no tendrá dispuesta respuestas exactas a estas preguntas. En estos casos, le pedimos provenirnos con sus mejores estimados. En fin, tiene Ud. el derecho de rehusar responder a cualquier pregunta.

Con estos objetivos, ¿Está dispuesta a participar en esta encuesta y nos da su permiso usar información confidencial de Esperanza? SÍ ____ NO ____

Si SÍ, POR FAVOR firma

_____ **X**

(Por favor, ENTREVISTADOR entre su nombre muy clara si no pueda)

Y POR FAVOR escriba su nombre

_____ **X**

Firma del Participante (Si no se puede escribir el nombre, se puede escribir un "X")

NOTA a ENTREVISTADOR/A: Si la respuesta arriba indica que el participante no se siente que tenga la información que necesitamos entonces explícale otra vez que solo necesitamos su mejor esfuerzo, y que entendemos que no todos de los participantes tendrán información exacta. Después, pregúntele si reconsiderará.

NOTA a ENTREVISTADOR/A: Si la respuesta arriba tiene que ver con cuestiones de privacidad, entonces recuérdale que su participación será muy útil en nuestra investigación y que permanecerá confidencial y que su privacidad es garantizada. Después, pregúntele si reconsideraría.

Si SÍ, POR FAVOR ¿Tenemos también su permiso usar información confidencial de Esperanza? SÍ ____ NO ____

Si SÍ, Por favor firme una vez más, gracias.

_____ **X**

Firma del Participante (Si no se puede escribir el nombre, se puede escribir un "X")

NOTA a ENTREVISTADOR/A: Si la respuesta arriba tiene que ver con cuestiones de privacidad, entonces recordarle que su participación será muy útil en nuestra investigación y

que permanecerá confidencial y que su privacidad es garantizada. Después, pregúntele si reconsiderará.

Firma del/a ENTREVISTADOR/A consiguiendo permiso

_____ **Fecha** _____

Nombre escrito del/a ENTREVISTADOR/A consiguiendo permiso

_____ **Fecha** _____

Esta hoja de autorización será retenida por el investigador por lo menos tres años después del fin del estudio y ha sido aprobado por el IRB de la Universidad de Cornell.

“Muchísimas gracias por su permiso. Vamos a empezar. Quisiéramos empezar preguntándole algunos preguntas generales sobre Ud.”....

Por favor, continúe a la pregunta 1..

ENTREVISTADOR/A: _____

FECHA: _____

I. Características de la ASOCIADA y del PRÉSTAMO

INFORMACIÓN BÁSICA
1. ¿Esta entrevistándole a la asociada durante/inmediatamente después de una reunión programada? SI __ NO (La buscaba en su comunidad/casa) _____
2. Nombre Completo _____
3. Banco de Esperanza _____
4. Número total de miembros de su grupo (Incluyéndole a la asociada) _____
5. Sucursal _____
6. Pueblo o Comunidad _____
7. ¿Cuántos minutos dura el viaje desde su casa hasta la oficina central de su Sucursal (San Pedro, Puerto Plata, Samana, Hato Mayor)? _____

MINUTOS (<i>Promedio</i>)
8. Edad _____ AÑOS
9. ¿Cuántos préstamos ha conseguido de Esperanza, incluyendo lo actual? _____
10. ¿De cuanto es su préstamo? _____
11. ¿Qué tasa de interés paga Ud.? _____% No Sabe _____
12. ¿Cuánto dura su préstamo actual ? _____

13. ¿En qué tipo de negocio ha invertido su préstamo?

- a. Comercio (ej. Venta de ropa, Venta de fritura, Colmado, Panadería etc.) _____
- b. Industria (i.e. Elaboración de casaba, Elaboración de dulces etc.) _____
- c. Servicio (i.e. Salón de Belleza, Taxista) _____
- d. Agricultura _____

14. ¿Cuáles de las siguientes opciones describe mejor su fuente mayor de ingresos ahora?

- a. Propio negocio _____ b. Trabajo asalariado _____ c. Le manda su familia (remesas) _____
- d. No tiene ingresos regulares _____

15. ¿Después de sacar su préstamo actual, que porcentaje de sus ingresos recibe Ud. de sus parientes o amigos (remesas)?

- a. Nada _____ b. Menos de la cuarta parte _____ c. La mitad _____ d. Casi todo _____

16. ¿Es Ud. la **sola dueña** de su negocio? (No comparte con otro/a) SI _____ NO _____

17. ¿Cuántos empleados pagados tiene Ud. en su empleo ahora? _____

18. ¿Cuántos empleados no pagados tiene Ud. en su negocio (hijos etc., no incluyéndole a Ud.)?

19. ¿Cuál es su estado civil?

- a. Casada _____ b. Soltera _____ c. Viuda _____ d. Divorciada _____ e. Unión Libre _____

20. ¿Tiene Ud. cedula o pasaporte? Sí _____ NO _____

21. ¿Tiene Ud. parientes de Haití?

a. NO _____

b. Sí, emigraron mis padres, abuelos, o antepasados _____

22. ¿Cuál es el monto de los ingresos de su casa en el año pasado (mejor estimación)? _____

23. ¿Cuál fue el monto total de los ingresos de su casa el mes pasado (mejor estimación)?

24. ¿Cuál fue la cantidad total del gasto en su casa en el mes pasado (mejor estimación)?

25. ¿Incluyendo Ud., cuántas personas viven en su casa? _____

(ENTREVISTADOR/A: esto es el número total de personas que compartan la casa del/a participante, incluyendo niños, padres etc.)

26. De las personas **que dependen** de Ud. en su casa:

a. ¿Cuántos son demasiado pequeños para asistir a la escuela? _____

b. ¿Cuántos están en escuela primaria? _____

c. ¿Cuántos están en escuela secundaria? _____

d. ¿Cuántos están en bachillerato? _____

e. ¿Cuántos están en la universidad? _____

f. ¿Cuántos tienen más de 50 años? _____

g. ¿Cuántos están enfermo/as o incapacitado/as? _____

27. ¿Cuál es el **más alto grado de educación** alcanzado por Ud.? (Por favor entre el numero del grado)

a. **NO** tiene educación formal _____

f. Parte de la Universidad _____

b. Parte de la escuela primaria _____

g. Universidad _____

c. Escuela primaria _____

h. Parte de una escuela técnico vocacional _____

d. Parte del bachillerato _____

i. Escuela técnico vocacional _____

e. Bachillerato _____

28. ¿Tiene Ud. **electricidad** en su casa?

a. Sí, Siempre o Casi Siempre (Tiene luz más a menudo que no tiene luz por apagones etc.) _____

b. Sí, A veces (Tiene luz menos a menudo que no tiene luz) _____

c. NO, porque no nos alcanza el dinero _____

d. NO, porque no está disponible _____

e. NO, otra razón _____

29. ¿Tiene Ud. **agua corriente** en su casa?

a. Sí, Siempre _____ b. A veces _____ c. NO _____

30. ¿Tiene Ud. **servicio de teléfono** en su casa?

a. Sí, Siempre (Tiene servicio más a menudo que no tiene por apagones etc.) _____

b. Sí, A veces (**No** Tiene servicio mas a menudo que tiene) _____

c. NO, porque no nos alcanza el dinero _____

d. NO, porque no está disponible _____

31. ¿Tiene acceso al uso de un **móvil**?

a. Sí, Siempre o Casi Siempre _____

d. NO, porque no está disponible _____

b. Sí, a Veces _____

e. NO, otra razón _____

c. NO, Nunca _____

32. ¿En una escala del 1 a 8 **qué tan religioso/a** considera que es usted?

(No soy religioso/a) 1 2 3 4 5 6 7 8 (Muy religioso/a)

33. ¿Si es religioso/a, a que iglesia asiste?

a. Católica _____

b. Protestante

i. Bautista _____

ii. Pentecostal _____

iii. Adventista _____

iv. Otro Protestante _____

c. Mormón _____

d. Testigo de Jehová _____

e. Otro _____

f. Ninguna _____

34. ¿Participa Ud. en la solución de problemas de la comunidad?

a. SÍ , siempre ____ b. SÍ , a menudo ____ c. SÍ , a veces ____ d. NO, nunca ____

35. ¿El ser asociada de Esperanza, le ha permitido (o a su familia) recibir **al menos un servicio de salud**?

SÍ ____ NO ____ (Si SÍ, señale cuales.)

a. Prueba de Papanicolaou ____ b. Servicios odontológicos ____ c. Charlas ____ c. Otros servicios ____

ENTREVISTADOR/A: Muchísimas gracias por toda esa información, eso es muy útil. Ahora quisiera preguntarle sobre sus preferencias entre tasas de interés.

II. DEMANDA DE CRÉDITO:

ENTREVISTADOR/A: Por favor, continúe a la SECCION SUPPLEMENTARIA sobre demanda de crédito.*

<<POR FAVOR, SIGA A LA SECCION SUPPLEMENTARIA>>

ESCOJA LA VARIANTE (De las 9) QUE PRESENTE UN PRESTAMO MAS PARECIDO AL PRESTAMO DE LA ASOCIADA

III. FINANZAS Y GESTIÓN DE RIESGO

36. Aparte de su préstamo con Esperanza ¿Tiene Ud. **otra deuda**? SÍ __ NO __

a. Si SÍ , por favor indique la suma total que le debe a los siguientes:

- i. Amigos ____
- ii. Parientes ____
- iii. Prestamistas ____
- iv. Organismos de Desarrollo ____
- v. Bancos Comerciales ____
- vi. Otros (*explique*) ____

37. Por favor, indique las tasas de interés que ha conseguido o que **CREE** existe. Lo que **cree**

puede estar basada en tasas de interés que ha oído de amigos, parientes, u otras fuentes fiables. Esto es MUY útil. *(En cada caso, por favor indique si la tasa es por Año o MES)*

38.

	TASA VERDADERA Si ha conseguido un préstamo de la opción [Indique Mensual/Anual]	TASA que CREE EXISTE Si NO ha conseguido un préstamo de la opción [Indique Mensual/Anual]	NO SABE de su tasa de interés [Indique Mensual/Anual]
i. Amigos			
i. Parientes			
i. Prestamistas			
v. Otros Organismos de Desarrollo			
v. Bancos Comerciales			
i. Otros			

39. Si vendiera todo lo que tiene (negocio, casa, suelo, ganadería etc.) cuanto recibiría (en PESOS) _____. *(ENTREVISTADOR/A: Es posible que sea difícil de contestar, porque requiere valorizarlo todo. Si la asociada no sabe o no entiende, escriba NO SABE.)*

40. Dada su presente situación financiera y sus ingresos ¿Qué piensa Ud. de su nivel de deuda? (Haga un círculo alrededor de la respuesta más apropiada).

a. Muy Baja ___ b. Baja ___ c. Razonable ___ d. Alta ___ e. Muy Alta ___

41. ¿Cuántas veces ha solicitado dinero a Bancos Comerciales u Organismos de Desarrollo (incluyendo a Esperanza) en el pasado? _____

42. ¿Cuántos préstamos ha recibido de Bancos Comerciales u Organismos de Desarrollo (incluyendo a Esperanza) en el pasado? _____

43. Entre los prestamos que ha solicitado a Bancos Comerciales u Organismos de Desarrollo (incluyendo Esperanza) en el pasado ¿Cuántas veces recibió el total de lo que había pedido?

44. En el pasado, ¿Le han negado un préstamo Bancos Comerciales u Organismos de Desarrollo (no incluyendo Esperanza)? SÍ _____ NO _____

a. Si **SÍ**, cuales son las razones principales por las cuales no recibió Ud. un préstamo (contesta más de uno si aplica)

i. Garantía insuficiente _____

ii. Su fuente mayor de ingresos no era muy segura _____

iii. No haber pagado deudas en el pasado _____

iv. El Banco pensaba que yo no era confiable. _____

v. El Organismo de Desarrollo o Banco Comercial pensaba que mis ingresos no eran suficientes para poder repagar la deuda _____

vi. El calendario de pago del Organismo de Desarrollo o Banco Comercial no correspondía a las ventas de su negocio _____

vii. No Sabe _____

45. ¿Alguna vez Ud. ha pagado tarde un préstamo **a las opciones que siguen?**

(ENTREVISTADOR/A: Con 'tarde' queremos decir que pagó tarde, pero finalmente pagó)

a. Pariente SÍ _____ NO _____

b. Amigo SÍ _____ NO _____

c. Prestamista SÍ _____ NO _____

d. Esperanza SÍ _____ NO _____

e. Organismo de Desarrollo (no incluyendo Esperanza) SÍ _____ NO _____

f. Banco Comercial SÍ _____ NO _____

g. Otro SÍ _____ NO _____

46. ¿Ha faltado de pagar un préstamo alguna vez **a las opciones que siguen?**

(ENTREVISTADOR/A: Queremos decir que nunca pagó el préstamo según el acuerdo con el prestamista).

a. Pariente SÍ _____ NO _____

b. Amigo SÍ _____ NO _____

c. Prestamista SÍ _____ NO _____

d. Esperanza SÍ _____ NO _____

e. Organismo de Desarrollo (no incluyendo Esperanza) SÍ _____ NO _____

- f. Banco Comercial SÍ _____ NO _____
 g. Otro SÍ _____ NO _____

47. ¿De quien recibió su último préstamo (**NO** incluyendo el préstamo actual que tiene con Esperanza)?

- a. Pariente _____
 b. Amigo _____
 c. Prestamista _____
 d. Esperanza _____
 e. Organismo de Desarrollo (**NO** incluyendo el préstamo actual que tiene con Esperanza)? _____
 f. Banco Comercial _____
 g. Otro _____

48. ¿Cuál fue el propósito de ese último préstamo (**NO** incluyendo el préstamo actual que tiene con Esperanza)? (*ENTREVISTADOR/A: Lee la siguiente lista*)

- a. Desarrollo de su **NEGOCIO** _____
 b. Salud/Medicina _____
 c. Boda _____
 d. Funeral _____
 e. Costos Escolares _____
 f. Agricultura (fertilizante, semillas, labor etc.) _____
 g. Maquinas y equipo _____
 h. Construcción de casa. _____
 i. Consumo del hogar _____
 j. Días festivos, vacaciones _____
 k. Otro _____

ENTREVISTADOR/A: *Ahora quisiéramos preguntarle sobre el ambiente para préstamos en su comunidad. Por favor indique en una escala de 1 a 5 si esta ‘Muy de Acuerdo’ o ‘Muy en Desacuerdo con las declaraciones que siguen.*

<p>(1) Muy de ACUERDO → (2) DE ACUERDO → (3) NEUTRAL → (4) EN DESACUERDO → (5) Muy en DESACUERDO</p>

49. Esperanza es más flexible en términos de repago que otros Organismos de Desarrollo o Bancos Comerciales.	1	2	3	4	5
50. Los prestamistas son más flexibles en términos de repago que Esperanza, otros Organismos de Desarrollo o Bancos Comerciales.	1	2	3	4	5
51. Los parientes son más flexibles en términos de repago que Esperanza, otros Organismos de Desarrollo o Bancos Comerciales.	1	2	3	4	5
52. Los amigos son más flexibles en términos de repago que Esperanza, otros Organismos de Desarrollo o Bancos Comerciales.	1	2	3	4	5
53. Cuando se piden préstamos a parientes o amigos se les causa una dificultad económica .	1	2	3	4	5
54. Está dispuesta a pagar una tasa de interés mayor de la que ofrece Esperanza, otros Organismos de Desarrollo o Bancos Comerciales para obtener un préstamo.	1	2	3	4	5
55. Si presta dinero a un pariente , tiene CONFIANZA en que vaya a devolvérselo dentro de un periodo razonable de tiempo .	1	2	3	4	5
56. Si presta dinero a un amigo , tiene CONFIANZA en que vaya a devolvérselo dentro de un periodo razonable de tiempo .	1	2	3	4	5
57. Si un pariente le presta dinero a Ud. , lo hace porque tiene CONFIANZA en que Ud. vaya a devolvérselo prestado dentro de un periodo razonable de tiempo .	1	2	3	4	5
58. Si un amigo le presta dinero a Ud., lo hace porque tiene CONFIANZA en que vaya a devolvérselo prestado dentro de un periodo razonable de tiempo.	1	2	3	4	5
59. En su comunidad, ocurren préstamos informales entre amigos y parientes porque tienen CONFIANZA el uno en el otro.	1	2	3	4	5
60. Si Ud. tuviera dinero disponible, le prestaría dinero a un amigo o pariente aunque NO tenga CONFIANZA en que vayan a devolvérselo prestado	1	2	3	4	5
61. Aunque no tiene garantía , Esperanza le prestaría a Ud. porque tiene CONFIANZA que vaya a devolvérselo.	1	2	3	4	5

62. Aunque no tiene garantía, un Organismo de Desarrollo (no incluyendo Esperanza) le prestaría a Ud. porque tiene CONFIANZA en que vaya a devolvérselo.	1	2	3	4	5
63. Aunque no tiene garantía, un Banco Comercial le prestaría a Ud. porque tiene CONFIANZA en que Ud. vaya a devolvérselo.	1	2	3	4	5
64. Aunque no tiene garantía, un Prestamista le prestaría a Ud. porque tiene CONFIANZA en que Ud. vaya a devolvérselo.	1	2	3	4	5

65. Esto es una suposición. Imagine que Ud. le debe 1,000 PESOS a Esperanza, 1,000 PESOS a otro Organismo de Desarrollo, 1,000 PESOS a un Banco Comercial, 1,000 PESOS a un Prestamista, 1,000 PESOS a un Amigo, y 1,000 PESOS a un Pariente, sumando a una deuda total de 6,000 PESOS. Suponga que solo tiene disponibles \$1,000 PESOS para devolver los préstamos. ¿Cuál de las siguientes opciones escogería? (Escoja solo uno)

- a. Devolvería primero el dinero al pariente. _____
- b. Devolvería primero el dinero al amigo. _____
- c. Devolvería primero el dinero a Esperanza. _____
- d. Devolvería primero el dinero al Organismo de Desarrollo (no incluyendo Esperanza). _____
- e. Devolvería primero el dinero al Banco Comercial. _____
- f. Devolvería primero el dinero al Prestamista. _____
- g. Devolvería un poco de dinero a todos. _____

IV. MODELO DE LA LIMITACIÓN DE CRÉDITO

ENTREVISTADOR/A: *Muchísimas gracias por su paciencia. Con las preguntas que siguen quisiéramos entender la dificultad o facilidad para conseguir un préstamo. Por favor indique en una escala de 1 a 5 si esta ‘Muy de Acuerdo’ o ‘Muy en Desacuerdo con las declaraciones que siguen.*

(1) Muy de ACUERDO → (2) DE ACUERDO → (3) NEUTRAL → (4) EN DESACUERDO → (5) Muy en DESACUERDO					
66. Esperanza le prestó dinero que no podía recibir en otro lugar.	1	2	3	4	5
67. Esperanza le prestó menos de lo que hubiera querido.	1	2	3	4	5
68. Si tuviera más propiedades, podría pedir prestado más dinero a un Organismo de Desarrollo o un Banco Comercial sin usar su	1	2	3	4	5

propiedad como garantía.					
69. Si tuviera más propiedades, podría pedir prestado más dinero a un Organismo de Desarrollo o un Banco Comercial, pero solo si usara esa propiedad como garantía.	1	2	3	4	5
70. Si tuviera más propiedades, podría pedir prestado más dinero a un Organismo de Desarrollo o un Banco Comercial con una tasa de interés más baja, y sin usar su propiedad como garantía.	1	2	3	4	5
71. Si tuviera más propiedades, podría pedir prestado más dinero a un Organismo de Desarrollo o un Banco Comercial con una tasa de interés más baja, pero solo si usara su propiedad como garantía.	1	2	3	4	5

V. IMPACTO DE LA LIMITACIÓN DE CRÉDITO

ENTREVISTADOR/A: Aquí vamos a preguntar sobre "limitaciones de préstamo." Con este término queremos decir que la asociada no puede obtener todo el dinero que le ha pedido prestado. Por favor indique en una escala de 1 a 5 si esta 'Muy de Acuerdo' o 'Muy en Desacuerdo con las declaraciones que siguen.

(1) Muy de ACUERDO → (2) DE ACUERDO → (3) NEUTRAL → (4) EN DESACUERDO → (5) Muy en DESACUERDO					
72. Si me conceden un crédito insuficiente (menos de lo que pide) no puedo maximizar las ganancias de su negocio.	1	2	3	4	5
73. Con un crédito insuficiente (menos de lo que pide), necesitaría ingresos procedentes de empleos fuera de su negocio.	1	2	3	4	5
74. Con un crédito insuficiente (menos de lo que pide), no podría proveer a mis niños una buena educación ni cuidado médico.	1	2	3	4	5
75. Con un crédito insuficiente (menos de lo que pide), su familia y yo no podríamos comer lo suficiente por un año.	1	2	3	4	5

76. Si pudiera pedirle prestado dinero suficiente a un Organismo de Crédito o Banco Comercial ¿Qué haría Ud.?

- Mudarle a un pueblo más grande o a una ciudad, y empezar otro negocio que le dé más dinero allí. _____
- Quedarle donde esta y expandir su negocio. _____

VI. PREGUNTAS DE CULPA

ENTREVISTADOR/A: *Gracias tanto. Ahora vamos a la próxima sección. Aquí quisiéramos pedirle responder en una escala del 1 a 8.*

77. ¿Alguna vez, ha faltado de pagar Ud. un préstamo **a un pariente**? SÍ ____ NO ____

a. Si SÍ, ¿Cuan culpable se sentía Ud.?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

b. Si NO, ¿Cuan culpable se sentiría Ud. si no hubiera pagado?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

78. ¿Alguna vez, no ha pagado Ud. un préstamo **a un vecino**? SÍ ____ NO ____

a. Si SÍ, ¿Cuan culpable se sentía Ud.?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

b. Si NO, ¿Cuan culpable se sentiría Ud. si no hubiera pagado?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

79. ¿Alguna vez, no ha pagado Ud. un préstamo **a Esperanza o a otro Organismo de Desarrollo**?

SÍ ____ NO ____

a. Si SÍ, ¿Cuan culpable se sentía Ud.?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

b. Si NO, ¿Cuan culpable se sentiría Ud. si no hubiera pagado?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

80. ¿Alguna vez, no ha pagado Ud. un préstamo a un **Banco Comercial**?

SÍ ____ NO ____

a. Si SÍ, ¿Cuan culpable se sentía Ud.?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

b. Si NO, ¿Cuan culpable se sentiría Ud. si no hubiera pagado?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

81. ¿Alguna vez, no ha pagado Ud. un préstamo a un **Prestamista**? SÍ ____ NO ____

a. Si SÍ, ¿Cuán culpable se sentía Ud.?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

b. Si NO, ¿Cuán culpable se sentiría Ud. si no hubiera pagado?

(No me sentía culpable) 1 2 3 4 5 6 7 8 (Muy culpable)

82. En una escal de 1 a 5 ¿ Cree que su capacidad de pagar un préstamo a Esperanza se ve afectada por **la época del año**?

(SI) 1 2 3 4 5 (NO)

83. **Suponiendo** que su capacidad de pagar un préstamo a Esperanza está afectada por la época del año, o que la capacidad de otros está afectada ¿**Esto se debe a cuales de las siguientes opciones?** (Escoja todas que aplican)

- a. Tiempo _____
- b. Un cambio en el número de Turistas
- c. La Cosecha _____
- d. Cambio de Gobierno _____
- e. Gastos de sus Dependientes (escuela etc.) _____
- f. Días de Fiesta, eventos de la comunidad _____
- g. Enfermedades _____
- h. Otros _____

84. En una escala de 1 a 5 ¿Afecta su capacidad de pagar un préstamo a Esperanza **el asesor que tiene asignado**?

(Si) 1 2 3 4 5 (No)

85. ¿Cuántas veces ha llegado tarde su asesor/a actual a una reunión?

- a. Nunca _____
- b. Pocas Veces _____
- c. Muchas Veces _____
- d. Siempre _____

86. Cuantas veces ha llegado tarde más de **cinco** asociados de su banco a una reunión?

- a. Nunca _____
- b. Pocas Veces _____
- c. Muchas Veces _____
- d. Siempre _____

87. En una escala de 1 a 5 ¿Considera Ud. que su asesor es una persona honesta?

(SI) 1 2 3 4 5 (No)

88. En una escala de 1 a 5 ¿Está al tanto de cómo va su negocio **su asesor**?

(SI) 1 2 3 4 5 (No)

89. Su asesor le ha visitado al menos una vez entre reuniones. SÍ _____ NO _____

90. Durante su historia de préstamo con Esperanza, ¿Cuántas veces ha cambiado de asesor/a?

91. ¿Que parte de los ingresos de su hogar puede ahorrar en un año?

- a. Nada ____ b. Menos de 5% ____ c. Entre 5 y 10% ____ d. Más de 10% ____

92. ¿Cuál de las siguientes posibilidades describe **mejor** donde guarda sus ahorros? (Solo escoja una por favor)

- a. En una cuenta bancaria de un Banco Comercial creado por Esperanza ____
b. En una cuenta en un Banco Comercial no creado por Esperanza ____
c. En una cuenta en otro Organismo de Desarrollo ____
d. En una cooperativa ____
e. En la casa ____
f. Con familia y/o amigos ____
g. No tiene ahorros ____

93. Si recibe más ingresos ¿Cuales de las siguientes posibilidades escogería? (seleccione solo uno)

- a. Ahorraría menos e invertiría más en su negocio ____
b. Ahorraría menos y compraría más para su hogar y/o consumo ____
c. Ahorraría menos y gastaría en viajes o vacaciones ____
d. Ahorraría lo mismo ____
e. Ahorraría más ____
f. Ahorraría mucho más ____

94. En una escala de 1 a 5 ¿Puede conseguir los préstamos que necesita de Organismos de Desarrollo y Bancos Comerciales para propósitos de CONSUMO, EDUCACIÓN, y/o SALUD?

(SI) 1 2 3 4 5 (NO)

95. Cuando **no puede** conseguir un préstamo de un Organismo de Desarrollo o un Banco para utilizarlo a fines de su negocio, ¿A **quien** pide dinero?

- a. Prestamistas ____
b. Amigos ____
c. Parientes ____

96. En una escala de 1 a 5 ¿Puede conseguir los préstamos que necesito de Organismos de Desarrollo y Bancos Comerciales para propósitos de su NEGOCIO?

(SI) 1 2 3 4 5 (NO)

97. Cuando **no puede** conseguir un préstamo de un Organismo de Desarrollo para utilizarlo a fines de CONSUMO, EDUCACIÓN, y/o SALUD ¿A **quien** pide dinero?

- a. Prestamistas _____
- b. Amigos _____
- c. Parientes _____

ENTREVISTADOR/A: Muchas Gracias. Por favor, para las preguntas que siguen indique en una escala de 1 a 5 si esta 'Muy de Acuerdo' o 'Muy en Desacuerdo con las declaraciones.

(1) Muy de ACUERDO → (2) DE ACUERDO → (3) NEUTRAL → (4) EN DESACUERDO → (5) Muy en DESACUERDO					
98. Si no podría pagar un préstamo de un Organismo de Desarrollo, Banco Comercial, amigo o pariente, sería por falta de recursos.	1	2	3	4	5
99. Si no podría pagar un préstamo de un Organismo de Desarrollo, Banco Comercial, amigo o pariente, sería por no entender los términos del acuerdo.	1	2	3	4	5
100. Si no podría pagar un préstamo de un Organismo de Desarrollo, Banco Comercial, amigo o pariente, sería el resultado de pérdidas en su negocio.	1	2	3	4	5
101. Si no podría pagar un préstamo de un Organismo de Desarrollo, Banco Comercial, amigo o pariente, sería un resultado de una muerte o enfermedad en su familia.	1	2	3	4	5
102. Si no podría pagar un préstamo de un Organismo de Desarrollo, Banco Comercial, amigo o pariente, sería el resultado de usar el dinero para otro propósito.	1	2	3	4	5

VII. DINÁMICA DE PRÉSTAMOS DE GRUPO

103. ¿Cuántos préstamos de grupo ha conseguido de Esperanza? _____

104. ¿Cuántos grupos ha tenido? _____

a. Si ha sido miembro **de más de un grupo**, ¿cuáles fueron las razones por cambiar de grupo?

(Escoja todos los que apliquen)

i. El grupo creció y lo dividieron _____

ii. Me mudé _____

iii. Tenía algún problema con un miembro del grupo _____

iv. Tenía algún problema con varios miembros del grupo ____

v. Otro ____

b. Si ha sido miembro **de más de un grupo**, por lo general, ¿Qué tan bien conocía a los miembros de sus grupos?

i. Muy bien ____

ii. Bien ____

iii. No muy bien ____

iv. Nada ____

105. ¿Qué tan bien conoce Ud. a los miembros de su grupo actual?

a. Muy bien ____

b. Bien ____

c. No muy bien ____

d. Nada ____

e. No Importa ____

106. En una escala de 1 a 5 ¿Prefiere Ud que los miembros de su grupo fueran parientes?

(SI) 1 2 3 4 5 (NO)

107. En una escala de 1 a 5 ¿Ha estado contenta con su experiencia con los miembros de su grupo/s en general?

(SI) 1 2 3 4 5 (NO)

108. Por favor describa la **formación** de su **grupo actual**, escogiendo una de las siguientes opciones.

a. Escogí todos los miembros ____

b. Escogí algunos de los miembros ____

c. Alguien me pidió juntarme al grupo ____

d. El Asesor me designó un grupo ____

e. Otro (por favor describa) _____

109. Alguna vez, ha dejado de pago su cuota completa a tiempo a Esperanza? SÍ ____ NO ____

a. ¿Ha dejado de pagar uno de los miembros su cuota completa a tiempo? SÍ ____ NO ____

110. ¿Alguna vez, ha dejado de pagar su cuota completa a tiempo Ud.? SÍ ____ NO ____

111.¿Alguna vez, ha faltado de pagar una cuota completa a tiempo a Esperanza **su grupo**? SÍ ____
NO ____

a. Si **SÍ** ¿Pagaron la cuota los miembros de su grupo o de su Banco de Esperanza? SÍ ____
NO ____

112.Si su grupo no ha pagado una cuota a tiempo ¿Con cuántos días de retraso lo hizo? ____
Nunca pagamos ____

113.En una escala de 1 a 5 ¿Qué **tipo de préstamo** prefiere Ud.?
(Individual) 1 2 3 4 5 (Grupo)

114.¿Quiere conseguir préstamos de Esperanza en el futuro? SÍ ____ NO ____ NO SABE ____

115.Si **SÍ** ¿Cuántos préstamos quiere conseguir de Esperanza?
a. Por lo menos 1 ____ b. Menos de 5 ____ c. Más de 5 ____

116.Si **NO** ¿Quiere conseguir préstamos de otros? SÍ ____ NO ____

117.Si quiere conseguir prestamos **de otros** en el futuro ¿**De quién** piense conseguir préstamos?

- a. Amigos ____
- b. Parientes ____
- c. Prestamistas ____
- d. Organismos de Desarrollo (**No incluyendo Esperanza**) ____
- e. Bancos Comerciales ____
- f. Otros ____

118.¿**Espera poder pagar todo** el préstamo actual a Esperanza?
a. Sí a tiempo ____ b. Pagar pero tarde ____ c. No creo que pueda ____

ENTREVISTADOR/A: *Muchísimas gracias, eso es muy útil. Ahora quisiera preguntarle sobre su actitud hacia riesgo y los riesgos que encuentra en su negocio.*

VIII. FUENTES DE RIESGO Y LAS PERCEPCIONES DE RIESGO

119. Por favor, **en una escala de 1 a 5**, indique si está dispuesta a arriesgarse en la manera que describe cada declaración que sigue. *(Por favor, haga un círculo alrededor de la respuesta más apropiada).*

Declaración	No está dispuesta a arriesgarse		Neutral a arriesgarse		Está dispuesta a arriesgarse
a. Esta dispuesta a aceptar riesgos más altos para aumentar la posibilidad de mayores ganancias	1	2	3	4	5
b. Esta dispuesta a aceptar riesgos con nuevas empresas o tecnologías antes de ver resultados buenos entre otros	1	2	3	4	5
c. Esta dispuesta a aceptar riesgos con nuevas prácticas administrativas antes de ver resultados buenos entre otros.	1	2	3	4	5

120. Por favor indique que tan importantes Ud. cree que es cada punto en **términos de la gestión de riesgo en su negocio** en una escala **1 = no es importante, 2 = menos importante, 3 = neutral, 4 = importante, and 5 = muy importante** (Haga un círculo alrededor de la repuesta más apropiada.) **En CADA caso**, por favor marque un “X” si **NO** lo usa para manejar riesgos.

Opciones del Gestión de Riesgos	Marque si NO se usa	NO es Importante				MUY Importante
a. Mantener más de una empresa (Diversificación de negocios)		1	2	3	4	5
b. Clientes en locales diferentes (Diversificación geográfica)		1	2	3	4	5
c. Vender cada producto tras tiempo (un poco cada día) y no todo a la vez (Diversificación de marketing)		1	2	3	4	5
d. Usar acuerdos para comercializar su producto por adelantado a un precio fijo		1	2	3	4	5
f. Mantener reservas financieras , dinero en efectivo y propiedades que vender fácilmente/rapidamente		1	2	3	4	5
g. Invertir en otras fuentes de ingresos		1	2	3	4	5

121. Imagine que un desconocido honesto le ofrezca una apuesta con un pago que depende de echar una moneda a la suerte. Si la moneda cae cara, **gana Ud.** la suma en la **primera** columna, y si cae cruz, **gana Ud.** la suma en la **segunda** columna. Si lo hace varias veces, ganaría la suma en la **tercera** columna. Mire las 6 apuestas en la tabla y **escoja la que prefiera**.

OPCION (Escoja una de 6)	Beneficios con BUENA suerte (PESOS)	Beneficios con MALA suerte (PESOS)	Beneficios después de jugar varias veces (PESOS)
1.	500	500	500
2.	950	450	700
3.	1200	400	800
4.	1500	300	900
5.	1900	100	1000
6.	2000	0	1000

ENTREVISTADOR/A: ¡Gracias tanto por su paciencia! Hemos completado la encuesta entera.

Demand Supplement, Spanish Version. Sample Loan Variant (3000 Pesos DR).

Estimación de la Demanda de Crédito
Sección Suplementaria

Nombre: _____
Sucursal: _____
Sexo: M ____ F ____

ENTREVISTADOR/A: Primero, quisiéramos preguntarle sobre los tipos de préstamos que prefiere y quiere.

8) Considerando su préstamo actual, cuales de las siguientes opciones quisiera Ud. si la tasa de interés CRECIERA?

- a) Conseguir un Préstamo MAS GRANDE _____
- b) Conseguir un Préstamo MAS PEQUEÑO _____
- c) Conseguir el MISMO Préstamo _____
- d) No sé _____

9) Considerando su préstamo actual, cuales de las siguientes opciones quisiera Ud. si la tasa de interés DISMINUYERA?

- a) Conseguir un Préstamo MAS GRANDE _____
- b) Conseguir un Préstamo MAS PEQUEÑO _____
- c) Conseguir el MISMO Préstamo _____
- d) No sé _____

10) Cuales de las siguientes opciones mejor describen lo que ha hecho y va a hacer con su préstamo actual? Por Favor, escoja todo que aplica.

- a) Productos para el negocio _____
- b) Contratar nuevos empleados _____
- c) Comprar ingredientes, maquinaria, o equipos que es necesario cambiar varias veces al año _____
- d) Comprar ingredientes, maquinaria, o equipo que es necesario cambiar solo una vez al año _____
- e) No pienso invertirlo en el negocio _____

11) En una escala de 1 a 5, prefiere pagar CUOTAS IGUALES?

(No, No Prefiero) 1 2 3 4 5 (Si, Prefiero)

12) En una escala de 1 a 5, prefiere pagar CUOTAS MAS GRANDES AL PRINCIPIO de su préstamo?

(No, No Prefiero) 1 2 3 4 5 (Si, Prefiero)

13) En una escala de 1 a 5, prefiere pagar CUOTAS MAS GRANDES AL FIN de su préstamo?

(No, No Prefiero) 1 2 3 4 5 (Si, Prefiero)

ENTREVISTADOR/A: *Ahora todas las preguntas que siguen deben responderse suponiendo que tiene un préstamo de 3000 PESOS por 6 MESES.*

14) Suponga que ha conseguido ese préstamo de 3000 por 6 meses. Ahora suponga que la tasa de interés creciera de 4% a 8% al mes, o al 96% anual. Esto significa que pagará a razón de 60 PESOS MÁS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes préstamos quisiera, si pudiera conseguir lo que quiera. (Por favor escoja SI o NO en cada caso, A-L)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razon de)	PAGO TOTAL POR INTERSES	SI	NO
A	\$3,000	\$325	\$924		
B	\$2,700	\$293	\$829		
C	\$2,400	\$260	\$737		
D	\$2,100	\$228	\$645		
E	\$1,800	\$195	\$553		
F	\$1,500	\$163	\$461		
G	\$1,200	\$130	\$368		
H	\$900	\$98	\$276		
I	\$600	\$65	\$184		
J	\$300	\$33	\$92		

15) Suponga que ha conseguido ese préstamo de 3000 por 6 meses. Ahora suponga que la tasa de interés creciera de 4% a 7% al mes, o al 84% anual. Esto significa que pagará a razón de 45 PESOS MÁS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes préstamos quisiera, si pudiera conseguir lo que quiera. (Por favor escoja SI o NO en cada caso, A-K)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razon de)	PAGO TOTAL POR INTERSES	SI	NO
A	\$3,000	\$315	\$800		
B	\$2,775	\$292	\$740		
C	\$2,550	\$268	\$681		
D	\$2,325	\$244	\$620		
E	\$2,100	\$221	\$560		
F	\$1,875	\$197	\$499		
G	\$1,650	\$174	\$439		
H	\$1,425	\$150	\$380		
I	\$1,200	\$126	\$320		
J	\$975	\$103	\$259		
K	\$750	\$79	\$199		

16) Suponga que ha conseguido ese préstamo de 3000 PESOS por 6 meses. Ahora suponga que la tasa de interés creciera de 4% a 6% al mes, o a 72% anual. Esto significa que pagara a razon de 30 PESOS MÁS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes préstamos quisiera, si pudiera conseguir lo que quiera. (Por Favor escoja SI o NO en cada caso, A-N)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razon de)	PAGO TOTAL POR INTERSES	SI	NO
A	\$3,000	\$306	\$679		
B	\$2,850	\$290	\$646		
C	\$2,700	\$275	\$611		
D	\$2,550	\$260	\$578		
E	\$2,400	\$245	\$543		
F	\$2,250	\$229	\$510		
G	\$2,100	\$214	\$475		
H	\$1,950	\$199	\$442		
I	\$1,800	\$184	\$407		
J	\$1,650	\$168	\$374		
K	\$1,500	\$153	\$339		
L	\$1,125	\$115	\$255		
M	\$750	\$77	\$169		
N	\$375	\$39	\$84		

17) Suponga que ha conseguido ese préstamo de 3000 PESOS por 6 meses. Ahora suponga que la tasa de interés creciera de 4% a 5% al mes, o al 60% anual. Esto significa que pagara a razon de 15 PESOS MÁS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes prestamos quisiera, si pudiera conseguir lo que quiera. (Por Favor escoja SI o NO en cada caso, A-O)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razon de)	PAGO TOTAL POR INTERSES	SI	NO
A	\$3,000	\$296	\$561		
B	\$2,925	\$289	\$547		
C	\$2,850	\$281	\$533		
D	\$2,775	\$274	\$520		
E	\$2,700	\$266	\$506		
F	\$2,625	\$259	\$491		
G	\$2,550	\$252	\$477		
H	\$2,475	\$244	\$463		
I	\$2,400	\$237	\$449		
J	\$2,325	\$230	\$434		
K	\$2,250	\$222	\$421		
L	\$2,063	\$204	\$386		
M	\$1,875	\$185	\$350		
N	\$1,688	\$167	\$316		
O	\$1,500	\$140	\$280		

18) Suponga que ha conseguido ese préstamo de 3000 PESOS por 6 meses. Ahora suponga que la tasa de interés disminuyera de 4% a 3% al mes, o al 36% anual. Esto significa que pagara a razón de 15 PESOS MENOS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes préstamos quisiera, si pudiera conseguir lo que quiera. (Por Favor escoja SI o NO en cada caso, A-O)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razón de)	PAGO TOTAL POR INTERESES	SI	NO
A	\$3,000	\$277	\$331		
B	\$3,075	\$284	\$339		
C	\$3,150	\$291	\$347		
D	\$3,225	\$298	\$355		
E	\$3,300	\$305	\$364		
F	\$3,375	\$312	\$372		
G	\$3,450	\$319	\$381		
H	\$3,525	\$326	\$389		
I	\$3,600	\$333	\$397		
J	\$3,675	\$340	\$405		
K	\$3,750	\$347	\$413		
L	\$3,938	\$364	\$435		
M	\$4,125	\$381	\$455		
N	\$4,313	\$399	\$476		
O	\$4,500	\$416	\$497		

19) Suponga que ha conseguido ese préstamo de 3000 PESOS por 6 meses. Ahora suponga que la tasa de interés disminuyera de 4% a 2% al mes, o al 24% anual. Esto significa que pagara a razón de 30 PESOS MENOS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes préstamos quisiera, si pudiera conseguir lo que quiera. (Por Favor escoja SI o NO en cada caso, A-O)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razón de)	PAGO TOTAL POR INTERESES	SI	NO
A	\$3,000	\$268	\$218		
B	\$3,150	\$282	\$229		
C	\$3,300	\$295	\$240		
D	\$3,450	\$308	\$251		
E	\$3,600	\$322	\$262		
F	\$3,750	\$335	\$273		
G	\$3,900	\$349	\$284		
H	\$4,050	\$362	\$295		
I	\$4,200	\$375	\$306		
J	\$4,350	\$389	\$317		
K	\$4,500	\$402	\$328		
L	\$4,875	\$436	\$355		
M	\$5,250	\$469	\$382		
N	\$5,625	\$503	\$410		
O	\$6,000	\$536	\$437		

20) Suponga que ha conseguido ese préstamo de 3000 PESOS por 6 meses. Ahora suponga que la tasa de interés disminuyera de 4% a 1% al mes, o al 12% anual. Esto significa que pagara a razón de 45 PESOS MENOS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes préstamos quisiera, si pudiera conseguir lo que quiera. (Por Favor escoja SI o NO en cada caso, A-O)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razon de)	PAGO TOTAL POR INTERSES	SI	NO
A	\$3,000	\$259	\$108		
B	\$3,225	\$279	\$116		
C	\$3,450	\$298	\$124		
D	\$3,675	\$318	\$132		
E	\$3,900	\$337	\$141		
F	\$4,125	\$356	\$149		
G	\$4,350	\$376	\$157		
H	\$4,575	\$395	\$165		
I	\$4,800	\$415	\$173		
J	\$5,025	\$434	\$181		
K	\$5,250	\$453	\$189		
L	\$5,813	\$502	\$210		
M	\$6,375	\$550	\$230		
N	\$6,938	\$599	\$250		
O	\$7,500	\$648	\$271		

21) Suponga que ha conseguido un préstamo de 3000 PESOS por 6 meses. Ahora suponga que la tasa de interés disminuyera de 4% a 0% al mes. Esto significa que pagara a razón de 60 PESOS MENOS por cuota. Con esta tasa de interés, y usando el dinero **para exactamente lo que nos dijo antes**, cuales de los siguientes préstamos quisiera, si pudiera conseguir lo que quiera. (Por Favor escoja SI o NO en cada caso, A-O)

	OPCION DE PRESTAMO NUEVO	PAGO BI-SEMANAL (a razon de)	PAGO TOTAL POR INTERSES	SI
A	\$3,000	\$250		
B	\$3,300	\$275		
C	\$3,600	\$300		
D	\$3,900	\$325		
E	\$4,200	\$350		
F	\$4,500	\$375		
G	\$4,800	\$400		
H	\$5,100	\$425		
I	\$5,400	\$450		
J	\$5,700	\$475		
K	\$6,000	\$500		
L	\$6,750	\$563		
M	\$7,500	\$625		
N	\$8,250	\$688		
O	\$9,000	\$750		

APPENDIX C PROGRAMMING CODE

STATA Code

```
/*drop variables with no client id*/
drop if best_e_zero_abs==.

//- Variables by Branch-//

/*To summarize elasticity by branch*/
bysort branchcode: summarize best_e_zero_abs
/*To summarize characteristics by branch*/
bysort branchcode: summarize age_cs educ voc_training haitian_relatives
loan_machine LinearElasticity_zero ConstantElasticity_zero Inc_ownbusiness
Inc_paidwork Inc_notregular Inc_remittances es_sales_5000_10000
credit_con_scale debt_scale inc_risks interest_aware DecRate_More
DecRate_Same DecRate_Less IncRate_More IncRate_Same IncRate_Less
ContainsNONE
bysort branchcode: summarize age_cs educ voc_training haitian_relatives
loan_machine LinearElasticity_zero ConstantElasticity_zero Inc_ownbusiness
Inc_paidwork Inc_notregular Inc_remittances es_sales_5000_10000
credit_con_scale debt_scale inc_risks interest_aware DecRate_More
DecRate_Same DecRate_Less IncRate_More IncRate_Same IncRate_Less
ContainsNONE if Amount_disbursed~=.
```



```
//-SKEWNESS TESTS-//
/*Hato Mayor*/
sktest best_e_zero_abs if hm == 1
/*San Pedro*/
sktest best_e_zero_abs if spm == 1
/*Alcarrizos*/
sktest best_e_zero_abs if alc == 1
/*Guaricanos*/
sktest best_e_zero_abs if gua == 1
/*Puerto Plata*/
sktest best_e_zero_abs if pp== 1
/*Seybo*/
sktest best_e_zero_abs if sey ==
```

//--- Main Models -----//

/*OLS (1)*/

```
regress best_e_zero_abs age_cs educ voc_training dep_elem water_scale  
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p  
es_savings_0_500 es_savings_500_1000 religious_rating community_scale  
Amount_disbursed Installment Eff__Rate Voluntary_savings esp_health  
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000  
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc  
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale  
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks  
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less  
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys  
ContainsNONE individual male var_length hm spm alc gua pp Mirna Astia  
Lourdes Emmanuel Esmeida Gabriela Maira Maximo MiguelinaArrendel Reina  
Yrene Fabia  
note: Miguelina omitted because of collinearity  
estimates store Model_1, title(Full Dataset (1))
```

/*OLS (2)*/

```
regress best_e_zero_abs age_cs educ voc_training dep_elem water_scale  
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p  
es_savings_0_500 es_savings_500_1000 religious_rating community_scale  
Amount_disbursed Installment Eff__Rate Voluntary_savings esp_health  
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000  
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc  
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale  
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks  
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less  
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys  
ContainsNONE individual male var_length hm spm alc gua pp, tsscons  
estimates store Model_3, title(Full Dataset (3))
```

/*Tobit (3)*/

```
Tobit best_e_zero_abs age_cs educ voc_training dep_elem water_scale  
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p  
es_savings_0_500 es_savings_500_1000 religious_rating community_scale  
Amount_disbursed Installment Eff__Rate Voluntary_savings esp_health  
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000  
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc  
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale  
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks  
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less  
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys  
ContainsNONE individual male var_length hm spm alc gua pp Mirna Astia
```

Lourdes Emmanuel Esmeida Gabriela Maira Maximo MiguelinaArrendel Reina
Yrene Fabia, ll(0) ul(2)
note: Fabia omitted because of collinearity
estimates store Tobit_Model_5

```
/*Tobit (4)*/
Tobit best_e_zero_abs age_cs educ voc_training dep_elem water_scale
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p
es_savings_0_500 es_savings_500_1000 religious_rating community_scale
Amount_disbursed Installment Eff__Rate Voluntary_savings esp_health
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys
ContainsNONE individual male var_length hm spm alc gua pp, ll(0) ul(2)
estimates store Tobit_Model_7
```

```
estout *, varwidth(50) cells(b(star fmt(3)) se(par("`="("`"`)"")) fmt(3))) legend
postfoot("Notes: Ordinary Least Squares model reported; standard errors in
parentheses.") label collabels(none) varlabels(_cons Constant) title("Table 6-
Elasticity of Demand for Credit")
estimates clear
```

```
//--- Main Models -----//
//--Robustness Check --//
```

drop if Date_Esp_Survey > Date_Cornell_Survey

```
/*OLS (5)*/
regress best_e_zero_abs age_cs educ voc_training dep_elem water_scale
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p
es_savings_0_500 es_savings_500_1000 religious_rating community_scale
Amount_disbursed Installment Eff__Rate Voluntary_savings esp_health
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys
ContainsNONE individual male var_length hm spm alc gua pp Mirna Astia
Lourdes Emmanuel Esmeida Gabriela Maira Maximo MiguelinaArrendel Reina
Yrene Fabia
note: Miguelina omitted because of collinearity
```


estimates store Model_1, title(Full Dataset (1))

/*OLS (6)*/

regress best_e_zero_abs age_cs educ voc_training dep_elem water_scale
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p
es_savings_0_500 es_savings_500_1000 religious_rating community_scale
Amount_disbursed Installment Eff_Rate Voluntary_savings esp_health
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys
ContainsNONE individual male var_length hm spm alc gua pp, tsscons
estimates store Model_3, title(Full Dataset (3))

/*Tobit (7)*/

Tobit best_e_zero_abs age_cs educ voc_training dep_elem water_scale
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p
es_savings_0_500 es_savings_500_1000 religious_rating community_scale
Amount_disbursed Installment Eff_Rate Voluntary_savings esp_health
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys
ContainsNONE individual male var_length hm spm alc gua pp Mirna Astia
Lourdes Emmanuel Esmeida Gabriela Maira Maximo MiguelinaArrendel Reina
Yrene Fabia, ll(0) ul(2)
note: Fabia omitted because of collinearity
estimates store Tobit_Model_5

/*Tobit (8)*/

Tobit best_e_zero_abs age_cs educ voc_training dep_elem water_scale
haitian_relatives Inc_ownbusiness Inc_paidwork savings_none_5p savings_5_10p
es_savings_0_500 es_savings_500_1000 religious_rating community_scale
Amount_disbursed Installment Eff_Rate Voluntary_savings esp_health
loan_machine es_sales_0_5000 es_sales_5000_10000 es_sales_10000_15000
es_sales_15000_20000 es_sales_20000_more sum_amount_disbursed_lc
debt_othr loans_rec loan_paid_late debt_scale esp_rationing_scale
credit_ration_food_agree credit_con_scale credit_busns_scale inc_risks
interest_aware IncRate_More IncRate_Less DecRate_More DecRate_Less
treatment_a interview_meeting Loan_Var_Diff Time_between_surveys
ContainsNONE individual male var_length hm spm alc gua pp, ll(0) ul(2)

```
estimates store Tobit_Model_7
```

```
estout *, varwidth(50) cells(b(star fmt(3)) se(par("`="("``")""") fmt(3))) legend  
postfoot("Notes: Ordinary Least Squares model reported; standard errors in  
parentheses.") label collabels(none) varlabels(_cons Constant) title("Table 6-  
Elasticity of Demand for Credit")
```

REFERENCES

- Adams, D. W., and J. D. Von Pischke. 1992. "Microenterprise credit programs: Deja vu." *World Development, Oxford* 20 (10): 1463.
- Akerlof, George A., and William T. Dickens. 1982. "The Economic Consequences of Cognitive Dissonance". *The American Economic Review*. 72 (3): 307-319.
- Amemiya, Takeshi. 1973. Regression analysis when the dependent variable is truncated normal. *Econometrica: Journal of the Econometric Society* 41 (6): 997-1016.
- Anderson, Kym, and Valdés, Alberto. Distortions to agricultural incentives in Latin America. World Bank [database online]. Washington, D.C., 2008.
- Banerjee, Abhijit & Esther Duflo. 2010. Giving Credit Where Credit is Due. Working paper, no. 10-3 [Boston, Mass.]: Department of Economics, Massachusetts Institute of Technology.
- Beam, Rebecca M. 2009. An exploration of the value of christian microfinance institutions. M.A. thesis, Crown College.
- Bell, Clive, T. N. Srinivasan, and Christopher Udry. 1997. "Rationing, spillover, and interlinking in credit markets: The case of rural punjab." *Oxford Economic Papers* 49 (4): 557-85.
- Benjamin, Daniel J., James J. Choi, and Geoffrey W. Fisher. 2010. *Religious identity and economic behavior*. Cambridge, Mass: National Bureau of Economic Research.
- Berger, Marguerite, Lara Goldmark, and Tomás Miller-Sanabria. 2006. *Inside view of Latin American microfinance*. Washington, D.C.: Inter-American Development Bank.
- Boucher, Stephen, and Michael R. Carter. 2001. Risk rationing and activity choice in moral hazard constrained credit markets. Agricultural & applied economics staff paper series, no. 445. [Madison, Wis.]: Dept. of Agricultural and Applied Economics, University of Wisconsin—Madison.
- Central Bank of the Dominican Republic. 2010. Estadísticas Económicas: Producto Interno Bruto, Trimestral 1991-2010 (Millones de RD\$

Encadenados, año de referencia 1991); Report on the Dominican Economy, January-March 2010: Executive Summary; Producto Interno Bruto por Sectores de Origen, Trimestral 1980-2005 (a precios de 1970); Índice de Precios al Consumidor Nacional, 1982-2009; Captación de Recursos de los Bancos Múltiples por Regiones; Tasas de Interés Reales de las Entidades de Intermediación Financiera* 2000-2010; Indicadores del Mercado de Trabajo por Género; Población Ocupada Perceptora de Ingresos e Ingresos por Horas Trabajadas a la Semana por Deciles de Ingresos según Nivel Educativo, año 2009; Producto Interno Bruto Percápita; Mercado Cambiario. <http://www.bancentral.gov.do/>

Chaia, A., Dalal, A., Goland, T., Gonzales, M.J., Morduch, J., & R. Schiff. McKinsey & Company and Financial Access Initiative. 2009. "Framing Note: Half the World is Unbanked." <http://wagner.nyu.edu/fai/HalfUnbanked.pdf>.

Collins, Daryl, Jonathan Morduch, Stuart Rutherford, and Orlanda Ruthven. 2009. *Portfolios of the poor: How the world's poor live on \$2 a day*. Princeton: Princeton University Press.

Dehejia, Rajeev H., Heather Montgomery, and Jonathan Morduch. 2005. *Do interest rates matter? : Credit demand in the dhaka slums*. Tokyo: Asian Development Bank Institute.

Economic Commission for Latin America and the Caribbean. 2007. Economic Statistics: "Anuario estadístico de América Latina y el Caribe." <http://www.eclac.org>.

Esperanza International. 2010. <http://esperanza.org>

"Financial Access 2009: Measuring Access to Financial Services Around the World." 2009. Consultative Group to Assist the Poor. <http://www.cgap.org/p/site/c/template.rc/1.9.38735/>.

Get Away Bahamas. "Dominican Republic." http://www.getawaybahamas.com/dominican_republic.htm

Findley, A. (2002). Grameen Foundation USA: Market survey of microfinance for Grameen Replication in the Dominican Republic. Retrieved April 20, 2008 from <http://www.gdrc.org/icm/country/dominican/do-GFUSA-Microfinance.pdf>

Fischer, Gregory M. 2008. Essays on Development Finance. PhD diss., Massachusetts Institute of Technology.

- Geilfus, Frans. 1994. *Agricultural involution in the Dominican Republic: The dynamics of peasant farm systems in a confined environment*. PhD diss., Universite Catholique de Louvain.
- “Global Microscope on the Microfinance Business Environment.” 2009. Economist Intelligence Unit. www.eiu.com/GlobalMicroscope 2009.
- Gonzalez, Adrian. 2010. “Analyzing Microcredit Interest Rates: A Review of the Methodology Proposed by Mohammed Yunus.” MIX Market, Data Brief No. 4.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales. 2003. “People's opium? Religion and economic attitudes.” *Journal of Monetary Economics* 50 (1): 225.
- Harper, Malcolm. 2008. *Development, divinity and dharma: The role of religion in development and microfinance institutions*. Rugby, Warwickshire, U.K.: Practical Action Publishing.
- Honohan, Patrick. 2008. “Cross-country variation in household access to financial services.” *Journal of Banking & Finance* 32 (11): 2493.
- Karlan, Dean S., and Jonathan Zinman. 2008. “Credit elasticities in less-developed economies: Implications for microfinance.” *The American Economic Review* 98 (3): 1040.
- Kochar, A. 1997. “An empirical investigation of rationing constraints in rural credit markets in India.” *Journal of Development Economics* 53 (2): 339.
- Marshall, Alfred. 1922. *Principles of economics; an introductory volume*. London, England: Macmillan and Co.
- McCleary, Rachel M., and Robert J. Barro. 2006. “Religion and economy.” *The Journal of Economic Perspectives* 20 (2): 49-72.
- McDonald, Benjamin and Joanna Ledgerwood. 1999. “Case studies in microfinance: The Dominican Republic, Ademi.” The World Bank. <http://www/gdrc.org/icm/country/dominican/do-microfinance.pdf>
- “Microfinanzas Americas 2009: Las 100 Mejores.” 2010. Inter-American Development Bank (IADB), Multilateral Investment Fund (MIF), Microfinance Information Exchange, Inc (MIX Market). <http://www.iadb.org/micamericas/>.

- MIX Market. 2009. "The MicroBanking Bulletin No. 19."
<http://www.themix.org/microbanking-bulletin/mbb-issue-no-19-december-2009>.
- MIX Market. 2008. "Country Profile: Dominican Republic."
<http://www.mixmarket.org/mfi/country/Dominican%20Republic>.
- Ortiz, Marina, and Jeffrey Poyo. 1999. *Microempresas, globalización y servicios financieros en la república dominicana, 1998-1998*. Santo Domingo, República Dominicana: Fondo para el Financiamiento de la Microempresa, Inc. (FondoMicro).
- The Rating Fund. Rating Reports: Dominican Republic. Retrieved April 20, 2008 from http://www.ratingfund.org/ratings_completed.aspx
- Rodriguez, Jenny K. 2010. "The construction of gender identities in public sector organisations in Latin America: A view of the Dominican Republic". Equality, Diversity and Inclusion: An International Journal. 29 (1): 53-77.
- Rosario, Juan. 1998. *Agricultura dominicana hacia el siglo XXI*. Dominican Republic: <s.n.>.
- Rosenberg , Richard, Gonzalez, Adrian, & Sushma Narain. 2009. "The New Moneylenders: Are the Poor Being Exploited by High Microcredit Interest Rates?" Consultative Group to Assist the Poor.
<http://www.cgap.org/p/site/c/template.rc/1.9.9534/>.
- Simon, Herbert A. 1955. "A Behavioral Model of Rational Choice." *The Quarterly Journal of Economics*. 69 (1): 99-118.
- Slovic, Paul. 1969. "Manipulating the attractiveness of a gamble without changing its expected value." *Journal of Experimental Psychology* 79(1): 139-145.
- Tirado de Alonso, Irma. 2002. *Caribbean economies in the twenty-first century*. Gainesville: University Press of Florida.
- Turvey, Calum. 2010. Credit Elasticities and Loan Demand. Working Paper [Ithaca, N.Y.]: Cornell University.
- Tversky A, and D Kahneman. 1981. "The framing of decisions and the psychology of choice". *Science (New York, N.Y.)*. 211 (4481): 453-8.
- Vargas-Lundius, Rosemary. 1991. *Peasants in distress: Poverty and unemployment in the Dominican Republic*. Boulder, C.O.: Westview Press.

Von Pischke, J. D., Dale W. Adams, and Gordon Donald. 1983. *Rural financial markets in developing countries: Their use and abuse*. Baltimore, Maryland: Published for the Economic Development Institute of the World Bank [by] the Johns Hopkins University Press.

Whittaker, Megan. 2008. "South Africa's National Credit Act: A Possible Model for the Proper Role of Interest Rate Ceilings for Microfinance." *Northwestern Journal of International Law & Business*; 28(3); 561-581.

Yunus, Muhammad, and Karl Weber. 2007. *Creating a world without poverty: Social business and the future of capitalism*. New York: PublicAffairs.